
Introduction

This document describes the software features available with the system. The features are described in feature modules *arranged alphabetically by feature name*. Each feature module contains the following information:

- Feature description
- Operating parameters
- Feature interactions
- Feature packaging
- Feature implementation
- Feature operation

Feature description Immediately following the title, a description provides an overview of the feature.

Operating parameters These details explain the hardware and software required or prohibited for operating the feature.

Feature interactions An interaction description explains how the feature is affected by, or affects, other features. When two features are mutually exclusive, they cannot be active in the system at the same time.

Feature packaging A brief list provides the package information (name, number, and mnemonic) for the feature and its dependencies.

Feature implementation This shows the individual overlays (LDs) necessary to activate the feature. The overlays listed show only prompts requiring responses for the feature. For a complete discussion of prompts and responses, refer to the *input/output guide*.

Feature operation Use these procedures to learn how to operate the feature.

Packaging Information

Information concerning software packaging and dependencies is discussed in the chapters listed below.

Features and software options An alphabetical list of features shows the software package number and feature mnemonic.

Software options and package dependencies A numerical list of software packages shows the feature name and package dependencies.

Other Reference Documents

Meridian 1 Option 11C Compact systems and this guide

Many features and services offered with Meridian 1 Option 11C Compact are similar (if not identical) to those offered with the Meridian 1 family of systems. For this reason, this guide sometimes refers to those systems.

Note: References to Option 11 and Option 11C should also be considered as references to Meridian 1 Option 11C Compact.

Refer to the following binders for details on additional features that are available with the Meridian 1 Option 11C Compact system:

- Automatic Call Distribution
- Software System Management (Books 1 and 2).

Features and software options

Table 1
Feature Names, Numbers and Mnemonics (Part 1 of 6)

Feature name	Number	Mnemonic
ACD CDR Queue Record	83	CDRQ
ACD Package A	45	ACDA
ACD Package B	41	ACDB
ACD Package C1	42	ACDC
ACD Package C2	43	LMAN
ACD Package D, Auxiliary Link Processor	51	LNK
ACD Timed Overflow	111	TOF
Alarm Filtering	243	ALARM_FILTER
ANI Route Selection	13	ANIR
Attendant Alternative Answering	174	AAA
Attendant Break In	127	BKI
Attendant Overflow Position	56	AOP
Autodial Tandem Transfer	258	ATX
Automatic Answerback	47	AAB
Automatic Line Selection	72	LSEL
Automatic Number Identification	12	ANI
Automatic Set Based Installation	200	AINS

Table 1
Feature Names, Numbers and Mnemonics (Part 2 of 6)

Feature name	Number	Mnemonic
Basic Alternate Route Selection	57	BARS
Basic Authorization Code	25	BAUT
Basic Automatic Call Distribution	40	BACD
Basic Call Processing	0	BASIC
Basic Queuing	28	BQUE
Basic Routing	14	BRTE
Call Detail Recording	4	CDR
Call ID	247	CALL ID
Calling Line ID in CDR	118	CCDR
Call Park	33	CPRK
Call Party Name Display	95	CPND
Call-by-Call Service Selection	117	CBC
Called Party Control on Internal Calls	310	CPCI
Calling Party Privacy	301	CPP
CDR Enhancements	259	CDRX
CDR Expansion (7 digits)	151	CDRE
CDR on Teletype Machine (TTY)	5	CTY
Centrex Switchhook Flash	157	THF
Charge Account for CDR	23	CHG
Charge Account/Authorization Code	24	CAB
Command Status Link	77	CSL
Controlled Class of Service	81	CCOS
Coordinated Dialing Plan	59	CDP

Table 1
Feature Names, Numbers and Mnemonics (Part 3 of 6)

Feature name	Number	Mnemonic
Deluxe Hold	71	DHLD
Departmental Listed Directory Number	76	DLDN
Dial Intercom	21	DI
Dialed Number Identification Service	98	DNIS
Digit Display	19	DDSP
Digit Key Signaling	180	DKS
Digital Telephones	88	DSET
Directed Call Pickup	115	DCP
Distinctive Ringing/New Distinctive Ringing	74	DRNG
DN Expansion (7 digits)	150	DNXP
Do Not Disturb, Group	16	DNDG
Do Not Disturb, Individual	9	DNDI
End-to-End Signaling	10	EES
Enhanced ACD	178	EOVF
Enhanced Conference, TDS and MFS card	204	XCT0
Enhanced Controlled Class of Service	173	ECCS
Enhanced Music	119	EMUS
Enhanced Night Service	133	ENS
Extended PBX Features	1	OPTF
Extended Peripheral Equipment (Superloop)	203	XPE
Fast Tone and Digit Switch	87	FTDS
FCC Compliance for DID Answer Supervision	223	FC68
Flexible Call Back Queuing	61	FCBQ
Flexible Feature Codes	139	FFC

Table 1
Feature Names, Numbers and Mnemonics (Part 4 of 6)

Feature name	Number	Mnemonic
Flexible Numbering Plan	160	FNPN
Flexible Tones and Cadences	125	FTC
Forced Charge Account	52	FCA
Group Call	48	GRP
History File	55	HIST
Hot Line Services, Enhanced Hot Line	70	HOT
Incoming DID Digit Conversion	113	IDC
Integrated Message System	35	IMS
Inter-Exchange Carrier	149	IEC
Intercept Treatment	11	INTR
Internal Call Detail Recording (CDR)	108	ICDR
ISDN Primary Rate Access	146	PRA
ISDN Signaling	145	ISDN
Last Number Redial	90	LNR
Limited Access to Overlays	164	LAPW
M2250 TCM Console	140	DCON
Make Set Busy	17	MSB
Malicious Call Trace	107	MCT
Meridian Administration Tools 5.0	296	MAT
Meridian Mail Voice Mailbox Administration	246	VMBA
Meridian Modular Telephones	170	ARIE
Message Center	46	MWC
Multi-Party Operations	141	MPO

Table 1
Feature Names, Numbers and Mnemonics (Part 5 of 6)

Feature name	Number	Mnemonic
Multi-Purpose Serial Data Link	222	MSDL
Multi-User Login	242	MULI
Music	44	MUS
Network Alternate Route Selection	58	NARS
Network Authorization Code	63	NAUT
Network Class of Service	32	NCOS
Network Signaling	37	NSIG
Network Speed Call	39	NSC
Network Traffic Measurement	29	NTRF
New Flexible Code Restriction	49	NFCR
New Format Call Detail Recording	234	FCDR
North America National ISDN Class II Equipment	291	NI2
Office Data Administration System	20	ODAS
Open Alarms	315	OPEN ALARM
Optional Outpulsing Delay	79	OOD
PBX Interface for DTI	75	PBXI
Phantom TNs	254	PHTN
Pretranslation	92	PXLT
Priority Override	186	POVR
Recorded Announcement	7	RAN
Recorded Overflow Announcement	36	ROA
Scheduled Access Restrictions	162	SAR
Series Call	191	SECL
Semi-Automatic Camp-On	181	SACP

Table 1
Feature Names, Numbers and Mnemonics (Part 6 of 6)

Feature name	Number	Mnemonic
Set Based Administration	256	ADMINSET
Set Relocation	53	SR
Station Activity Record	251	SCDR
Station Camp-on	121	SCMP
Station Category Indication	80	SCI
Station Specific Authorization Code	229	SSAU
Stored Number Redial	64	SNR
Superloop Administration (LD 97)	205	XCT1
System Speed Call	34	SSC
Time and Date	8	TAD
Trunk Anti-Tromboning	312	TAT
Trunk Barring	132	TBAR
Trunk Verification from a Station	110	TVS
Voice Mailbox Administration	246	VMBA
2500 Telephone Features	18	SS25
500 Telephone Features	73	SS5

Software options and package dependencies

Table 1
Software options and package dependencies (Part 1 of 15)

Number	Package name	Mnemonic
0	Basic Call Processing Includes the following features: — Call Transfer — Conference — Call Forward No Answer — Hunt — Call Pickup — Call Redirection by Time of Day — Trunk to Trunk Connection	BASIC
1	Extended PBX Features Includes the following features: — Autodial — Call Forward All Calls — Override — Ring Again — Secretarial Filtering — Speed Call — Voice Call	OPTF

Table 1
Software options and package dependencies (Part 2 of 15)

Number	Package name	Mnemonic
4	Call Detail Recording This is the base package for CDR. See also — CDR with Charge Account (CHG-24) — CDR Magnetic Tape (CLNK-6) (package 6 is not supported on Release 19 and later) — CDR TTY (CTY-5) — CDR Queue Record (CDR-83) — Internal CDR (ICDR-108) Without CTY (5) or CLNK (6), CDR cannot output statistics or reports.	CDR
5	CDR on TTY Package dependency: — CDR (4)	CTY
7	Recorded Announcement Package dependency: — INTR (11)	RAN
8	Time and Date	TAD
9	Do Not Disturb, Individual	DNDI
10	End-to-End Signaling	EES
11	Intercept Treatment	INTR
12	Automatic Number Identification	ANI
13	ANI Route Selection Package dependency: — ANI (12)	ANIR

Table 1
Software options and package dependencies (Part 3 of 15)

Number	Package name	Mnemonic
14	Basic Routing Package dependency: — NCOS (32)	BRTE
16	Do Not Disturb, Group Package dependency: — DNDI (9)	DNDG
17	Make Set Busy	MSB
18	2500 Telephone Features	SS25
19	Digit Display	DDSP
20	Office Data Administration System	ODAS
21	Dial Intercom	DI
23	Charge Account for CDR Package dependencies: — CDR (4) — CAB (24)	CHG
24	Charge Account/Authorization Code	CAB
25	Basic Authorization Code Package dependency: — CAB (24)	BAUT
28	Basic Queuing	BQUE
29	Network Traffic Measurement	NTRF
32	Network Class of Service	NCOS
33	Call Park	CPRK
34	System Speed Call	SSC

Table 1
Software options and package dependencies (Part 4 of 15)

Number	Package name	Mnemonic
35	Integrated Message System Package dependencies: — ACDA (45) — MWC (46) Meridian Mail IMS applications require the following additional packages: — CSL (77) — CDRQ (83)	IMS
36	Recorded Overflow Announcement Package dependency: — RAN (7)	ROA
37	Network Signaling Package dependency: — NCOS (32)	NSIG
39	Network Speed Call	NSC
40	Basic Automatic Call Distribution This is the minimum package for ACD. See also — ACD Basic; package A (ACDA-45) — ACD Advanced; package B (ACDB-41) — ACD Management Reports; package C1 (ACDC-42) — ACD Load Management; package C2 (LMAN-43) — ACD Package D (ACDD-50) — ACD Auxiliary Link Processor (LNK-51) — ACD/CDRQ record (CDRQ-83) — ACD Timed Overflow (TOF-111) — Dialed Number Identification Service (DNIS-98)	BACD

Table 1
Software options and package dependencies (Part 5 of 15)

Number	Package name	Mnemonic
41	ACD Package B Package dependencies: — ACDA (45)	ACDB
42	ACD Package C1 Package dependencies: — ACDB (41)	ACDC
44	Music Package dependency: — RAN (7)	MUS
45	ACD Package A Package dependency: — BACD (40)	ACDA
46	Message Center	MWC
47	Automatic Answerback	AAB
48	Group Call	GRP
49	New Flexible Code Restriction Package dependency: — NCOS (32)	NFCR
51	ACD Package D, Auxiliary Link Processor Package dependency: — ACDD (50)	LNK
52	Forced Charge Account Package dependencies: — CHG (23)	FCA
53	Set Relocation	SR

Table 1
Software options and package dependencies (Part 6 of 15)

Number	Package name	Mnemonic
55	History File	HIST
56	Attendant Overflow Position AOP cannot be used with CASM (26), CASR (27) or NAS (159).	AOP
57	Basic Alternate Route Selection Package dependencies: — BRTE (14) — NCOS (32)	BARS
58	Network Alternate Route Selection Package dependencies: — BRTE (14)	NARS
59	Coordinated Dialing Plan Package dependencies: — BRTE (14) — FCBQ (61)	CDP
61	Flexible Call Back Queuing Package dependencies: — BQUE (28) — BARS (57), NARS (58) or CDP (59)	FCBQ
63	Network Authorization Code Package dependencies: — BAUT (25) — BARS (57), NARS (58) or CDP (59)	NAUT
64	Stored Number Redial	SNR

Table 1
Software options and package dependencies (Part 7 of 15)

Number	Package name	Mnemonic
70	Hot Line Services	HOT
	Enhanced Hot Line	HOT
	Package dependencies:	
	— NCOS (32)	
	— SSC (34)	
	ISDN Network	
	— ISDN (145)	
	— NTKW (148)	
	— PRA (146) or ISL (147)	
71	Deluxe Hold	DHLD
72	Automatic Line Selection	LSEL
73	500 Telephone Features	SS5
	Package dependency:	
	— SS25 (18)	
74	Distinctive and New Distinctive Ringing	DRNG
75	PBX Interface for DTI/CPI	PBXI
76	Departmental Listed Directory Number	DLDN
77	Command Status Link	CSL
79	Optional Outpulsing Delay	OOD
80	Station Category Indication	SCI
81	Controlled Class of Service	CCOS
83	ACD CDR Queue Record	CDRQ
	Package dependencies:	
	— CDR (4)	
	— BACD (40)	

Table 1
Software options and package dependencies (Part 8 of 15)

Number	Package name	Mnemonic
87	Fast Tone and Digit Switch	FTDS
88	Digital Telephone Sets	DSET
90	Last Number Redial	LNR
92	Pretranslation/Enhanced Pretranslation	PXLT
95	Call Party Name Display	CPND
	Package dependencies:	
	— DDSP (19)	
	— DSET (88)	
	— TSET (89)	
	— ODAS (20) for DES	
	— BGD (99) for Hotel/Motel applications	
98	Dialed Number Identification Service	DNIS
	Package dependencies:	
	— DDSP (19)	
	— ACDA (45)	
	— APL (109) for DP link	
	— IDC (113) for routing by DNIS	
107	Malicious Call Trace	MCT
	— Enhanced Malicious Call Trace (X11 Release 20)	
	Package dependencies:	
	— ISDN (145)	
	— PRA (146) or ISL (147)	
	— NAS (159)	
	— ISDN INTL SUP(161)	

Table 1
Software options and package dependencies (Part 9 of 15)

Number	Package name	Mnemonic
108	Internal Call Detail Recording (ICDR) Package dependency: — CDR (4)	ICDR
110	Trunk Verification from a Station	TVS
111	ACD Timed Overflow Package dependency: — ACDB (41)	TOF
113	Incoming DID Digit Conversion Package dependency: — NFCR (49)	IDC
115	Directed Call Pickup	DCP
117	Call-by-Call Service Selection Package dependencies: — PRA (146) — IEC (149) for Inter-Exchange Carrier connect	CBC
118	Calling Line ID in CDR	CCDR
119	Enhanced Music Package dependency: — MUS (44)	EMUS
121	Station Camp-on	SCMP
125	Flexible Tone and Cadences	FTC
127	Attendant Break In	BKI
132	Trunk Barring	TBAR
133	Enhanced Night Service	ENS

Table 1
Software options and package dependencies (Part 10 of 15)

Number	Package name	Mnemonic
139	Flexible Feature Codes Package dependencies: — SS5 (73) for FFCs on 500 telephones Automatic Wake Up FFC Delimiter (X11 Release 22) — RAN (7) — CCOS (81) — BGD (99) — AWU (102) Electronic Lock Network Wide (X11 Release 21) — NCOS (32) — CCOS (81) — ISDN (145) Busy Number Redial (X11 Release 21) — OPTF (1) Customer Call Forward (X11 Release 21) — OPTF (1) — SS25 (18) Outgoing Call Barring (X11 Release 21) — NFCR (49)	FFC
140	M2250 TCM Console Package dependency: — DSET (88)	DCON
141	Multi-Party Operations Package dependency: — FTC (125) for Recall ringing cadence and control/special dial tones	MPO

Table 1
Software options and package dependencies (Part 11 of 15)

Number	Package name	Mnemonic
145	ISDN Signaling Call Pickup Network Wide Package dependencies: — DCP (115) — NTWK (148) — PRA (146) or BRA (216)	ISDN
146	ISDN Primary Rate Access Package dependencies: — PBXI (75) — ISDN (145) — DDSP (19) for Calling Line ID.	PRA
149	Inter-Exchange Carrier Package dependencies: — PRA (146)	IEC
150	DN Expansion (7 digit)	DNXP
151	CDR Expansion (7 digit)	CDRE
157	Centrex Switchhook Flash	THF
160	Flexible Numbering Plan Package dependencies: — BARS (57), NARS (58) or CDP (59)	FNP
162	Scheduled Access Restrictions Package dependencies: — BAUT (25), FCA (52) and FFC (139) for added capability for manual modification of schedules — NCOS (32) to make NCOS restrictions effective — TENS (86) for multi-tenant service	SAR

Table 1
Software options and package dependencies (Part 12 of 15)

Number	Package name	Mnemonic
164	Limited Access to Overlays	LAPW
170	Meridian Modular Telephone Package dependency: — DSET (88) or TSET (89)	ARIE
173	Enhanced Controlled Class of Service Package dependency: — CCOS (81)	ECCS
174	Attendant Alternative Answering — AAA and AFNA (134) are mutually exclusive	AAA
178	Enhanced ACD	EOVF
180	Digit Key Signaling Package dependencies: — RAN (7) — EES (10) — MSB (17) — IMS (35) — BACD (40) — ACDA (45) — MWC (46) — CSL (77) — APL (109) — FFC (139) MPO (141) for 500/2500 sets	DKS
181	Semi-Automatic Camp-On	SACP
186	Priority Override — FFC (139) MPO (141) for 500/2500 sets	POVR
191	Series Call	SECL

Table 1
Software options and package dependencies (Part 13 of 15)

Number	Package name	Mnemonic
200	Automatic Set Based Installation	AINS
203	Extended Peripheral Equipment (Superloop) Package dependency: — XCT1 (205)	XPE
204	Enhanced Conference, TDS and MFS card Package dependency: — XCT1 (205)	XCT0
205	Superloop Administration (LD 97)	XCT1
222	Multi-Purpose Serial Data Link Package dependencies: — ISDN (145) and PRA (146) for D-channel with PRA — ISDN (145 and ISL (147) for D-channel with ISL — MSDL SDI (227) for Serial Data Interface — MSDL SDI (227) and MSDL STA (228) for Single Terminal Access — IMS (35), CSL (77) and IAP3P (153) for Application Module Link	MSDL
223	FCC Compliance for DID Answer Supervision	FC68
229	Station Specific Authorization Code Package dependency: — BAUT (25)	SSAU
234	New Format Call Detail Reporting Package dependencies: — CDR (4) — CTY (5)	FCDR
242	Multi-User Login	MULI

Table 1
Software options and package dependencies (Part 14 of 15)

Number	Package name	Mnemonic
243	Alarm Filtering Package dependency: — HIST (55)	ALRM FILTER
246	Voice Mailbox Administration Package dependency: — CPND (95)	VMBA
247	Call ID	CALL ID
251	Station Activity Record Package dependencies: — CDR (4) — CTY (5)	SCDR
254	Phantom TN Operation — FFC (139) for Remote Call Forwarding	PHTN
256	Set Based Administration Package dependencies: — FFC (139) — LAPW (164) — DDSP (19) for Digit Display — DSET (88) for Digital Sets — CPND (95) for Call Party Name Display — ARIE (170) for Meridian Modular Sets	ADMINSET
258	Autodial Tandem Transfer Package dependencies: — EES (10) — THF (157)	ATX
259	CDR Enhancements	CDRX

Table 1
Software options and package dependencies (Part 15 of 15)

Number	Package name	Mnemonic
296	Meridian Administration Tools 5.0 — LAPW (164) — MULI (242)	MAT
301	Calling Party Privacy — FFC (139)	CPP
310	Called Party Control on Internal Calls — MCT (107)	CPCI
312	Trunk Anti-Tromboning — ISDN (145) — PRA (146) or ISL (147) — MSDL (222) Recommended: — NTWK (148)	TAT
315	Open Alarms	OPEN ALARM

Access Restrictions

Access restrictions limit terminal access to the exchange network, private network, and certain services and features.

Access restrictions can be temporarily overridden by the use of other features, if equipped, including Forced Charge Account, Authorization Code, and System Speed Call.

During the call origination process, access checks are made by the Meridian 1 Option 11C Compact on the following:

- the Class of Service (CLS) of the individual terminal
- the Trunk Group Access Restriction (TGAR) code of the terminal if a direct trunk access code is dialed or as an optional feature when a Basic Alternate Route Selection (BARS) or Network Alternate Route Selection (NARS) access code is dialed
- the area and exchange codes dialed by terminals with Toll Denied or Conditionally Toll Denied Class of Service using direct trunk access codes and Code Restriction tables, and
- the Network Class of Service (NCOS) of the terminal if BARS/NARS or Coordinated Dialing Plan (CDP) access codes are dialed or if direct trunk access codes are dialed and New Flexible Code Restriction tables are programmed.

If any restrictions are detected when a call is placed, the call is given intercept treatment as defined in the Customer Data Block.

Class of Service restrictions

The Class of Service restrictions assigned to telephones and TIE trunks control the degree of access to and from external networks and certain features within the system. The eight possible Class of Service access restrictions, from Fully Restricted Service to Unrestricted Service, are shown in the following table. These restrictions are applied by the service change overlay programs to the following types of terminals:

— Analog (500/2500 type) telephones	LD 10
— Meridian proprietary telephones, Meridian Mail channels	LD 11
— Incoming TIE Trunks	LD 14
— Authorization Codes	LD 88
— DISA ports	LD 24

Descriptions of the eight Class of Service access restrictions follow, from the most restricted to the least restricted.

Fully Restricted Service

There are three levels of Fully Restricted Service:

- FR2
 - allowed to originate and receive internal calls
 - denied access to TIE and Common Controlled Switching Arrangement networks
 - denied access to and from the exchange network, either by dialing, through a local attendant, or using call modification from a local unrestricted telephone

Call modification takes place when certain features are activated while a call is in progress (e.g., Call Park, Call Pickup, Call Transfer, Conference, or Night Answer).
- FR1
 - allowed to originate and receive internal calls

Table 1
Class of Service chart

	UNR	CTD/CUN	TLD	SRE	FRE	FR1	FR2
Incoming trunk calls	Yes	Yes	Yes	Yes	No Yes, if using call modification. (See page 28.)	No	No
Outgoing non-toll trunk calls	Yes	Yes	Yes	No direct access Yes, using attendant or UNR telephone	No direct access Yes, if using UNR telephone	No	No
Outgoing toll trunk calls (0 or 1+ on COT or FX)	Yes	No direct access Yes, if using BARS/NARS	No direct access Yes, if using attendant or UNR telephone	No direct access Yes, if using attendant or UNR telephone	No direct access Yes, if using UNR telephone	No	No
To/From TIE trunk	Yes	Yes	Yes	Yes	Yes	Yes	No
To/From internal	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BARS/NARS calls TGAR = No	Uses NCOS only	Uses NCOS only	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS	Uses NCOS and CLS
BARS/NARS calls TGAR = Yes	Uses NCOS and TGAR	Uses NCOS and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses NCOS, CLS, and TGAR	Uses CLS only

- allowed access to TIE and CCSA networks
- denied access to and from the exchange network, either by dialing through an attendant or by using call modification from an unrestricted telephone.

Note: In a networking environment, incoming and outgoing calls can be extended, via call modification, to a telephone with CLS = FR1.

If a telephone with CLS = FR1 is in a Multiple Appearance DN (MADN) arrangement, the call may be presented if at least one of the telephones has CLS = UNR. Once the call is presented, it will ring all telephones in the MADN group. However, only UNR telephones can answer the call.

— FRE

- allowed to originate and receive internal calls
- allowed access to TIE and CCSA networks
- allowed access to and from the exchange network using call modification from an unrestricted telephone
- denied access (either by dialing or through a local attendant) to and from the exchange network

Note: The FRPT prompt in LD 17 allows or denies access to incoming calls for FRE CLS telephones. It allows FRE calls to Call Pickup, Night Answer, and to receive modified calls.

The assignment of Incoming Call Indicator (ICI) keys allows the attendant to recognize which calls are fully restricted:

- DF0 = calls from FRE, FR1, and FR2 CLS, and
- DL0 = calls from CUN, CTD, TLD, SRE, and UNR CLS.

Semi-Restricted Service (SRE)

Allowed to receive calls from the exchange network. Restricted from all dial access to the exchange network. Allowed to access the exchange network through an attendant or an unrestricted telephone only.

Toll Denied Service (TLD)

Allowed to receive calls from the exchange network. Allowed access to WATS trunks for toll calls using direct trunk access codes unless New Flexible Code Restriction (NFCR) is programmed to deny certain digits.

Denied from calls on Central Office/Foreign Exchange (CO/FX) trunks where 0 or 1 is dialed as a first or second digit following a direct trunk access code. Special numbers like 411, 611, and 911 are allowed by default unless restricted specifically by NFCR. Denied from toll calls on CO/FX trunks when BARS or NARS access codes are dialed unless NFCR tables allow the call.

Allowed toll calls on WATS trunks using BARS or NARS access codes unless NFCR tables deny digits. Allowed access to the toll exchange network through an attendant or an unrestricted telephone. Allowed toll calls and special number calls on TIE trunks, unless NFCR tables specifically deny certain digits. Direct trunk access to toll calls on TIE trunks is permitted, as well as BARS or NARS access.

Conditionally Toll Denied Service (CTD)

Allowed to receive calls from the exchange network. Allowed access to WATS trunks for toll calls using direct trunk access codes unless New Flexible Code Restriction (NFCR) is programmed to deny certain digits.

Denied from calls on CO/FX trunks where 0 or 1 is dialed as a first or second digit following a direct trunk access code (special numbers excepted). New Flexible Code Restriction tables can be used to deny or allow certain calls on these routes.

Allowed access to toll calls on CO/FX/WATS trunks placed using BARS or NARS or CDP access codes. NFCR tables, if programmed on the routes, are ignored for CTD users dialing Electronic Switched Network (ESN) access codes. Allowed toll calls and special number calls on TIE trunks, unless NFCR tables specifically deny certain digits. Direct trunk access is permitted as well as BARS or NARS access. NFCR tables deny calls for these users only if direct TIE trunk access codes are used.

Conditionally Unrestricted Service (CUN)

Allowed access for calls placed through Automatic Number Identification (ANI) trunks. Denied access for all other types of outgoing calls.

Unrestricted Service (UNR)

Allowed to originate and receive calls from the exchange network.

Code Restriction

Code Restriction allows limited access to the toll exchange network to stations and TIE trunks with a Toll Denied Class of Service (TLD). A Code Restriction Block that specifies the allowed area and exchange codes (200 through 999) is built for each trunk route. This block restricts access to specific area and exchange codes by monitoring the digits dialed.

There can be only one Code Restriction Block per route. The only routes that use Code Restriction Blocks are Central Office Trunk (COT) and FX, since they are toll routes. Code Restriction Blocks are ignored for all other types of routes.

When a telephone or TIE trunk with a CTD, CUN, or TLD Class of Service directly access a COT or FX route, the system examines the Code Restriction Block to determine the call eligibility.

Special numbers 01, 011, 411, 611, 800, and 911 are allowed by default. These special numbers, however, can be restricted in the Code Restriction Block so that they cannot be dialed successfully.

Code Restriction Blocks only perform three-digit screening. For 1+ dialing areas, the system can ignore the 1 when examining the TLD telephone dialed number. The 1 is later outpulsed with the dialed number to complete the call successfully.

Trunk Group Access Restriction

Trunk Group Access Restriction (TGAR) controls access to the exchange network, TIE trunks, CCSA trunks, and paging and dictation services.

Telephones (LD 10, LD 11), TIE trunks (LD 14), Direct Inward System Access (DISA) trunks (LD 24), Meridian Mail channels (LD 11), and Authorization Codes (LD 88) are assigned a TGAR code, which is used to block access to certain trunk groups entirely.

There can be up to 32 TGAR codes in use on a system (0-31).

When a telephone or TIE trunk dials the access code to a trunk route, the system first checks the Class of Service of the terminal. If access is allowed, the TGAR is checked next. If the TGAR of the originating terminal matches one of the listed Trunk Access Restriction Group (TARG) codes programmed against the trunk group, access is denied. Intercept treatment is given to denied calls. A list of TARG codes can be programmed in LD 16 against each route, where applicable, to block access by certain terminals.

Optionally, the TGAR can be used to block access to certain routes even when a BARS or NARS access code is dialed and the route is being seized.

When denied access because of TGAR, a user may still gain access to a route via the Attendant Console or an unrestricted terminal.

If the attendant uses the Trunk Group Busy (TGB) keys on the console to make trunk groups busy, terminals with TGAR code 0-7 are intercepted to the attendant when they access the route by dialing or try to gain access using ESN access codes. Terminals with TGAR code 8-31 continue to have access to the route, unaffected by the activation of the TGB keys.

By default, TGAR code 0 means the terminal has access to all routes.

The following example further explains Trunk Group Access Restrictions. Assume a customer has seven trunk routes:

TGAR	Access denied to routes
Route 0	COT
1	WATS
2	FX 1
3	FX 2
4	TIE 1
5	TIE 2
6	Paging

Assume the following seven TGAR codes are required:

TGAR	Access denied to routes
0	No restrictions (default)
1	0, 1, 2, 3, 4, 5, 6
2	2, 3, 4, 5
3	3, 4, 5
4	2, 6
5	3, 4, 5, 6
6	5, 6

The TGAR/TARG matrix summary is as follows:

Trunk Type	Route number	TARG Code
		0 1 2 3 4 5 6 7-31
COT	0	1
WATS	1	1
FX 1	2	1 2 4
FX 2	3	1 2 3 5
TIE 1	4	1 2 3 5
TIE 2	5	1 2 3 5 6
Paging	6	1 4 5 6

It follows from the matrix summary that a telephone or TIE trunk was assigned one of the following TGAR codes:

- 0 – has no restrictions
- 1 – cannot access trunk routes 0 through 6
- 2 – cannot access trunk routes 2 through 5

- 3 – cannot access trunk routes 3 through 5
- 4 – cannot access trunk routes 2 and 6
- 5 – cannot access trunk routes 3 through 6
- 6 – cannot access trunk routes 5 and 6

Trunk signaling arrangements

Trunk-to-trunk connections are further controlled by the signaling and supervision arrangements assigned to each trunk. [Table 2](#) summarizes the trunk signaling arrangements.

Table 2
Trunk signaling arrangements

From	To		
	Trunk with/without disconnect supervision	Paging dictation trunk	Telephone (non-trunk)
Trunk with disconnect supervision	Yes	No	Yes
Trunk without disconnect supervision	No	No	Yes
RAN/Paging dictation trunk	No	No	No
Telephone	Yes	Yes	Yes
Note: Yes = connection allowed No = connection disallowed			

Two outgoing trunks cannot be connected unless a supervising party, local to the Meridian 1 Option 11C Compact system, is conferenced in the call. This is true regardless of the supervisions.

Transfer from a supervised trunk to a non-supervised loop start trunk is not permitted.

Operating parameters

If a conflict exists between the Class of Service (CLS) and Trunk Group Access Restrictions (TGAR), the access denied restriction takes precedence.

Access restrictions are applied through service change overlay programs. Access to telephone and trunk features is denied in the respective data block by allowing the system to default to a denial, by not entering the appropriate feature code, or by not assigning the feature to a key/lamp pair. You must enable the features and access restrictions you want, on a customer and telephone level.

Services such as paging and dictation can be restricted through TGAR codes, because the auxiliary equipment is linked to the Meridian 1 Option 11C Compact system by way of trunks.

Feature interactions

Automatic Redial (ARDL)

The Access Restriction/Trunk Group Access Restrictions of an ARDL redialed call are those restrictions that were applied when the call was initiated. These initial restrictions are not changed.

ISDN QSIG Call Completion

ISDN QSIG does not override Access Restrictions. When Call Completion is activated, the second call has the same restrictions as the initial call that received either no answer or a busy indication.

New Flexible Code Restriction

The Code Restriction feature and New Flexible Code Restriction cannot be implemented simultaneously for the same customer.

Preference Trunk Usage

When attempting to seize a trunk, Preference Trunk Usage (PTU) does not impact Access Restrictions that were previously implemented such as Trunk Access Restrictions Group (TARG), Trunk Group Access Restrictions (TGAR), Facility Restriction Level (FRL), Class of Service Full Restricted (CLS FRE). The feature checks routes that the user is allowed to access.

When PTU is carrying out preliminary trunk availability, check restrictions are not queried, with the exception of FRL. It is possible that a Preference Trunk Usage Congestion (PTUC) signal is sent.

Scheduled Access Restrictions

The Trunk Access Restriction Group (TARG) defined for each route is not altered by Scheduled Access Restrictions. Access to the route is denied to any telephone or trunk assigned a Trunk Group Access Restriction code that is part of the TARG.

Trunk Barring

Trunk Barring is at the top of the hierarchy for access restrictions.

Feature packaging

Access Restrictions are included in base system software.

Feature implementation

LD 10 – Assign a Class of Service and TGAR code for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
TGAR	X, (0)-31	Station or trunk TGAR. X = remove TGAR value.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 11 – Assign a Class of Service and TGAR code for Meridian proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, 2616.
TN	I s c u	Terminal Number.
TGAR	X, (0)-31	Station or trunk TGAR. X = remove TGAR value.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 14 – Assign a Class of Service and TGAR code for TIE trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	TIE, ISA, CSA	Trunk type.
TN	c u	Terminal Number.
TGAR	X, (0)-31	Station or trunk TGAR. X = remove TGAR value.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 88 – Assign a Class of Service to the Authorization Code classcode.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	AUB	Authcode Data Block.
CUST	0	Customer number.
SPWD	xxxx	Secure data password (see LD 15 for description).
CLAS	0-115	Classcode number.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.
TGAR	X, (0)-31	Class code TGAR Network Class of Service.
NCOS	(0)-99	Toll Restricted.

LD 24 – Assign a Class of Service to Direct Inward System Access (DISA) numbers.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	DIS	DISA data.
CUST	0	Customer number.
SPWD	xxxx	Secure data password (see LD 15 for description).
DN	xxx...x	DISA DN.
TGAR	X, (0)-31	Station or trunk TGAR. X = remove TGAR value.

NCOS	(0)-99	Network Class of Service.
CLS	(UNR) CUN TLD CTD SRE FRE FR1 FR2	Unrestricted (default). Conditionally Unrestricted. Toll Denied. Conditionally Toll Denied. Semi-Restricted. Fully Restricted. Fully Restricted 1. Fully Restricted 2.

LD 17 – Allow/deny incoming calls to telephones with an FRE Class of Service for all customers.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record. Gate opener.
...		
FRPT	(NEFR), OLFR	(Deny) allow incoming trunk calls to telephones with FRE CLS, using call modification.

LD 16 – Add/change the TARG code for a trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TARG	1 2 3...31	Route TARG codes (list each TGAR to be blocked from using this route – put a space between each entry). To remove an entry, precede with X.

LD 19 – Implement Code Restriction on trunk routes.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CRB	Code Restriction Block.
CUST	0-99	Customer number.
ROUT	xxx	Trunk route number of COT or FX (there can be only one Code Restriction Block for each COT or FX route).
CLR	ALLOW	Allow all NPA/NXX codes except those entered in response to the prompt DENY.
	DENY	Deny all NPA/NXX codes except those entered in response to the prompt ALLOW.
	<CR>	Used when REQ = CHG.
ALLOW	xxx xxx...	If CLR=DENY, enter the NPA/NXX codes (200-999) allowed.
DENY	xxx xxx...	If CLR=ALLOW, enter the NPA/NXX codes (200-999) denied.

LD 16 – Define toll access digits that are to be ignored for Code Restriction.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
OABS	x x x	Outgoing digits (0-9) to be ignored.

Feature operation

No specific operating procedures are required to use this feature.

Alarm Management

The Alarm Management feature enhances and updates Meridian 1 Option 11C Compact operations, administration and maintenance. Alarm Management provides overall alarm and fault handling as well as refinements to Meridian 1 Option 11C Compact displays and alarm processes.

Alarm Management provides the following subfeatures:

- Event Collector;
- Event Server;
- Alarm Notification;
- Escalation and Suppression Thresholds.

This feature uses the following new command line input interface (input parser), which has the following general structure. This new command is entered at the command prompt “where”.

LD 117 – New Command Format

➔ **COMMAND OBJECT [(FIELD1 value (FIELD 2 value).....(FIELDx value)]**

With the Release 22 Alarm Management feature, all *processor-based system events* are processed and logged into a new disk-based System Event List (SEL). Events which are generated as a result of administration activities, such as SCH or ESN error messages, *are not* logged into the SEL. Events which are generated as a result of maintenance or system activities, like BUG and ERR error messages, *are* logged into the SEL. Unlike the previous System History File, this new System Event List survives Sysload, Initialization and power failures.

The Event Collector

The Event Collector captures and maintains a list of all processor-based system events. The Event Collector also routes critical events to FIL TTY ports and lights the attendant console minor alarm lamp as appropriate. The System Event List (SEL) can be printed or browsed.

The Event Server

The Event Server has two components: the Event Default Table and the Event Preference Table.

Event Default Table

This table associates events with a default severity. By using the CHG EDT command in LD 117, the EDT can be overridden so that all events default to a severity of either INFO or MINOR. The EDT can be viewed in LD 117.

Sample Event Default Table (EDT)

Error Code	Severity
ERR220	Critical
IOD6	Critical
BUG4001	Minor

Error codes which do not appear in the EDT will be assigned a default severity of MINOR.

Event Preference Table

This table contains site-specific preferences for event severities as well as criteria for severity escalation and alarm suppression. The administrator can configure the EPT to:

- 1 override the default event severity assigned by the default table
- 2 escalate event severity of frequently occurring minor or major alarms

Sample Event Preference Table (EPT)

Error Code	Severity	Escalate Threshold (events/60 sec.) (see Note 2)
ERR??? (see Note 1)	Critical	5
INI???	Default	7
BUG1??	Minor	0
HWI363	Major	3
Note 1: The "?" is a wildcard. See section below for explanation of wildcard entries. Note 2: The window timer length defaults to 60 seconds. However, this value can be changed by the Administrator. Read "Global Window Timer Length" on page 44 for more information.		

The special wildcard character "?" can be entered for the numeric segment of an error code entry in the EPT to represent a range of events. All events in the range indicated by the wildcard entry can then be assigned a particular severity or escalation threshold.

For example, if "ERR???" is entered and assigned a MAJOR severity in the EPT, all events from ERR0000 to ERR9999 are assigned MAJOR severity. If "BUG3?" is entered and assigned an escalation threshold of 5, the severity of all events from BUG0030 to BUG0039 will be escalated to the next higher severity if their occurrence rate exceeds 5 per time window.

Escalation and Suppression Thresholds

The escalation threshold specifies a number of events per window timer length that when exceeded, will cause the event severity to be escalated up one level. The window timer length is set to 1 minute by default. Escalation occurs only for minor or major alarms. Escalation threshold values must be less than the universal suppression threshold value.

A suppression threshold suppresses events that flood the system and applies to all events. It is set to 15 events per minute by default.

Global Window Timer Length

Both the escalation and suppression thresholds are measured within a global window timer length. The window timer length is set to 1 minute by default. However, the window timer length can be changed by using the CHG TIMER command in LD 117.

Alarm Notification

Alarm Notification has made improvements to the usage of the minor alarm lamp on Attendant Consoles. Existing procedure calls that activate or light the minor lamp have been removed. The minor lamp is now lit from a central location based upon alarm severity.

The severity of these alarms are determined by the Event Server for 11C, 51C, 61C, 81 and 81C systems and as managed in LD 117.

The Meridian 1 Option 11C Compact now has four alarm severities: information, critical, major and minor. The Minor alarm lamp on the Attendant Consoles lights when critical alarms occur.

TTY Output Format of Events

TTY event output can be formatted or unformatted. Formatted output is also called fancy format. Output format is configurable in LD 117 using the CHG FMT_OUTPUT command.

Fancy Format Output

The following is a sample of fancy format output:

```
*** BUG015 15/12/95 12:05:45 00345
EXPDATA: 04BEF0FC 05500FBA 05500EE2 05500EC6 05500EAA
BUG015 + 05500E72 + 05500E56 + 0550D96 + 055053A + 04D84E02 + 04D83CFC
BUG015 + 04D835CA 04D81BAE 04D7EABE 04F7EABE 04F7EDF2 04F7EFC 04F7E1B0

* ERR00220 15/12/92 12:05:27 00346
OPRDATA: 51

VAS0010 15/12/92 12:06:11 00347 VMBA VAS 5
```


Formatted output appears in the following template:

```

I<severity> <report id> <date> <time> <prim_seq_no> <cp_id> <cp_ad>
DESCTXT: <descriptive text>
OPRDATA: <operator data>
EXPDATA: <expert data>

```

Field	Description
<severity>	***** (critical); **** (major); *** (minor); " " (blank for info).
<report id>	The report id consists of an event category (e.g. BUG, ERR, etc.) and an event number (1200, 230, etc.). It is padded with blanks at the end to ensure it is 9 characters long (4 characters max. for category and 5 digits max. for number). Examples of report ids are: ERR230, ACD3560, and BUG30.
<date>	DD/MM/YY.
<time>	HH:MM:SS.
<prim_seq_no>	Primary sequence number of the event (length of 5 digits).
<cp_id>	The Component ID is a 15 character string which indicates the id of the subsystem generating the alarm.
<cp_ad>	The Component address is a 15 character string which indicates the address of the subsystem generating the event.
<descriptive text>	This is an optional string which describes an event.
<operator data>	This is an optional field which holds a 160 character string containing extra text or data to assist the operator in clearing a fault. This field contains any data output with a filtered SL-1 alarm (e.g. loop number, TN, etc.).
<expert data>	This is an optional variable length character string which contains extra text or data for a system expert or designer.

Unformatted Output

Unformatted data consists of only the report ID and perhaps additional text. The following is a sample of unformatted output:

```

BUG015
BUG015 + 04BEF0FC 05500FBA 05500EE2 05500EAA 0550E8E
BUG015 + 05500E72 05500E56 05500D96 0550053A 04D84E02
BUG015 + 04D835CA 04D81BAE 04D7EABE 04F7EDF2 04F7E2FC 04&E1B0
BUG015 + 04F7E148

```

ERR00220 51
VAS0010

Operating parameters

Event Collector and Event Server

The Default Tables associate default severity classification with the event. Default event severities are predetermined and cannot be changed.

EDT can be overridden using the CHG EDT prompt in LD 117 so that all events default to either INFO or MINOR severity. This is useful when a user wants to manage alarm severity entirely by entering data in Event Preference Tables.

The Default Table is stored in a disk file but is scanned into memory on start-up for rapid run-time access.

The Event Preference Table is used to capture site preferences, to selectively override default event severity assigned by the default table and to escalate event severity of frequently occurring minor or major alarms. This table supports “wildcarding”. The special wildcard character “?” only matches significant digits of the event number (e.g., BUG1??? would match all “BUG” messages in the range of 1000 to 1999 and BUG12? would match range of 120 to 129). When entering “BUG” messages, leading zeros do not have to be entered. As an example, BUG001 can be entered as BUG1.

The escalation threshold value specifies a number of events per minute that when exceeded will cause the event severity to escalate to another level. Escalation only occurs for minor and major alarms. A threshold value of zero (0) disables the escalation feature.

A universal suppression threshold is applied to all events and suppresses events that are flooding the system. The suppression is set to 15 events per minute by default.

Alarm Notification

Initialization preserves the status of Attendant Console alarm lamps.

Feature interactions

There are no feature interactions.

Feature packaging

With the exception of the Alarm Notification subfeature, the Alarm Management feature is optional. It is a major enhancement to the existing Meridian 1 Option 11C Compact Alarm Filtering (ALRM_FILTER) package 243.

Feature implementation

This feature introduces a new overlay, LD 117, for configuration and administration. A detailed listing of alarm management and fault clearing commands is contained in the *Software Input/Output Guide*

LD 117 – System Events List commands.

Command	Object)	Field's Valid Inputs/Range	Description
BROWSE	<i>SEL</i>	UP n	Browse up n # of lines in System Event Log (SELOG).
BROWSE	<i>SEL</i>	DOWN n	Browse down n # of lines in SELOG.
BROWSE	<i>SEL</i>	TOP n	Browse to top of SELOG.
BROWSE	<i>SEL</i>	BOT n	Browse to Bottom of SELOG.
BROWSE	<i>SEL</i>	FIND xxx	Browse forward to find string xxx in SELOG.
BROWSE	<i>SEL</i>	BFIND xxx	Browse backward to find string xxx in SELOG.
CHG	<i>SELSIZE</i>	n	Change Sytem Event Log Size (Number of Events in Selog) n = 0 - (1000) - 3000.
PRT	<i>SEL</i>		Print active alarm list (number of records to be printed).
PRT	<i>SELSIZE</i>		Print system event log size.

LD 117 – Event Default Table commands.

Command	Object	Field's Valid Inputs/Range	Description
CHG	<i>EDT</i>	(NORMAL)	Use EDT default severities.
CHG	<i>EDT</i>	INFO	Override EDT; use INFO as default severity.
CHG	<i>EDT</i>	MINOR	Override EDT; use MINOR as default severity.
CHG	<i>FMT</i>	(OFF)	Turn off formatted output.
CHG	<i>FMT</i>	ON	Turn on formatted output.
PRT	<i>EDT</i>		Print entries in Event Default Table.
PRT	<i>EDT</i>	ALL	Print all entries in Event Default Table.
PRT	<i>EDT</i>	aa..a	Print a single entry.
PRT	<i>EDT</i>	aa..a bb..b	Print a range of entries.

LD 117 – Event Preference Table commands.

Command	Object	Field's Valid Inputs/Range	Description
NEW/CHG	<i>EPT</i>	aa...a (INFO)	Information severity.
NEW/CHG	<i>EPT</i>	aa...a EDT	Use NT-defined severity from EDT.
NEWCHG	<i>EPT</i>	aa...a MAJOR	Major severity.
NEW/CHG	<i>EPT</i>	aa...a MINOR	Minor severity.
NEW/CHG	<i>EPT</i>	aa...a CRITICAL	Critical severity.
NEW/CHG	<i>EPT</i>	aa...a (0)-SUPPRES s	Escalate value (must be less than SUPPRESS value).
CHG	<i>SUPPRESS</i>	n	Change global suppress for events (number of occurrences before event is suppressed), n = 0-(15)-127.
CHG	<i>TIMER</i>	n	Change global timer window length in minutes, n = (1)-60.
OUT	<i>EPT</i>	ALL	Delete all entries in Event Default Table.
OUT	<i>EPT</i>	aa..aa	Delete a single Event Preference Table (EPT).
PRT	<i>EPT</i>	aa...a aa...a	Print range of entries in Event Preference Table.
PRT	<i>EPT</i>	aa...a	Print specific Event Preference Table (EPT) event.
PRT	<i>EPT</i>	ALL	Print all entries in Event Preference Table (EPT).
PRT	<i>FMT</i>	(OFF)	Turn off formatted output.
PRT	<i>FMT</i>	ON	Turn on formatted output.

Prior to Release 22 Fault Management

LD 17 – Configure the Alarm/Exception filter for systems other than 51C, 61C, 81 and 81C.

Prompt	Response	Description
REQ	CHG	Change configuration.
TYPE	ALARM	Alarm Filter configuration data.
<i>FMT_OUTPUT</i> (<i><fmt_output></i>)		Current configuration of core output formatting automatically printed by the system.
<i>AF_STATUS</i> (<i><af_status></i>)		Current configuration of alarm filter status automatically printed by system.
FMT_OUTPUT	ON (OFF) <CR>	Enable Formatted Output printing. Disable Formatted Output printing. Retain current FMT_OUTPUT value.
AF_STATUS	ON (OFF) <CR>	Enable alarm and exception filtering. Disable alarm and exception filtering. Retain current AF_STATUS value.
TIMER	(1)-60	Configure alarm timer window in minutes for suppression and escalation.
SUPPRESS	0-(15)-127	Alarm count before suppression. 0 count disables the alarm suppression.
A_FILTER	NEW CHG OUT X <CR>	Create a new alarm filter entry. Change parameters of an entry. Remove an entry. Same as OUT. Concludes filter entries. Go to E_FILTER prompt.
- TRIGGER	aa...a	An alarm report ID string consisting of a valid mnemonic and a numeric field (e.g., BUG123, OVL457) the chain of 1 to 10 characters in length. A question mark "?" can be used to indicate a wildcard entry for the numeric portion of the report ID (e.g., BUG???? includes BUG system messages from 0-9999). The mnemonics supported for this prompt are listed at the beginning of this overlay.

- SEVERITY	CRITICAL MAJOR MINOR (NONE) <CR>	Critical alarm – switch operational status in jeopardy. Major alarm – serious condition, but switch is operational. Minor alarm – error condition detected. None – no rating. Retain current value. The capital letters in the response indicate the minimum number of letters required as input before the system finds a match.
SEVERITY <severity>		When an abbreviation for the severity is typed (e.g., “C”), the matching severity is printed (i.e., SEVERITY CRITICAL).
- ESCALATE:<#>	0-(2)-127	Number of occurrences of alarm before it is escalated to critical severity over the global defined TIMER period. When the TIMER period has elapsed, the Interval Alarm counter is cleared. An entry of 0 disables alarm escalation. Escalate can only be configured for MINOR and MAJOR alarms. Note: The core alarm filter is updated after the response to the ESCALATE prompt is inputted.
A_FILTER	<CR>	Concludes alarm filter entries. Go to E_FILTER prompt.
E_FILTER	NEW OUT X <CR>	Create a new exception filter entry. Remove exception filter entry. Same as OUT. Concludes exception filter entries. Skip to the next gateway or REQ prompt.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Alternative Answering

Attendant Alternative Answering (AAA) allows customers to define a timing threshold for attendant calls. After the predefined time, the unanswered call presented to an idle loop key on an Attendant Console is forwarded to a predefined DN for alternate answering.

An unanswered call is forwarded to an idle or busy alternate DN. The call is subject to further call modification depending on the database configuration for the alternate DN.

When a call is presented to an idle loop key on the Attendant Console, the following occurs:

- 1** The system checks the attendant for AAA eligibility by checking for the AAA timer. The AAA timer activates the AAA feature.
- 2** When the timer expires, the unanswered call is forwarded to the Attendant Alternative Answering DN (AAA DN) defined for an individual attendant. Calls forwarded to the AAA DN are subject to the individual telephone's features, independent of the attendant. It is possible that the DN rung may not be the AAA DN.
- 3** After the alternate telephone has been reached, the Attendant Console releases the call.

- 4 If call termination is unsuccessful at the AAA DN, an error message is generated that explains the problem:
 - If the error is because of an invalid AAA DN or tenant-to-tenant access denied condition, the call remains on the idle loop key for the attendant, and the AAA timer is not started again.
 - For all other errors, the call remains on the attendant loop key and AAA timer is restarted. The sequence is repeated until the call is answered at the console, disconnected by the caller, or terminated at the AAA DN.

When an Automatic Wake Up (AWU) recall is presented to the AWU key on the Attendant Console, the following occurs:

- 1 The AWU key buzzes, and the associated indicator fast flashes.
- 2 The attendant presses the AWU key to accept the recall.
- 3 The attendant presses the RLS key to release the call. An AWU recall must be acknowledged before any other calls can be presented to the attendant.
- 4 With AAA, the AWU call is presented to the attendant for the duration of the AAA timer. If an AWU recall is not acknowledged before the timer threshold, the recall is returned to the attendant queue to be presented later. The AWU recall will not be forwarded to the AAA DN.

If the AAA DN does not answer, call treatment is defined by the features allowed for the originally dialed DN. If the originally dialed DN is the attendant, call treatment is defined by the features allowed for the AAA DN.

The order listed below reflects the precedence when one or more call forwarding features is equipped:

- 1 Call Forward All Calls
- 2 Message Center
- 3 Call Forward No Answer
 - Flexible Call Forward No Answer
 - Second Level Call Forward No Answer
 - Call Forward by Call Type, and

4 Automatic Timed Recalls (slow answer).

For an unanswered call presented to a busy AAA DN, treatment is defined by the features enabled for that customer and the AAA DN telephone.

The order listed below reflects the precedence when one or more call forwarding features is equipped on the AAA DN:

- 1 Call Forward All Calls**
- 2 Hunting**
- 3 Call Waiting**
- 4 Message Waiting (Direct Inward Dialing [DID] calls only) (if Message Waiting Forward Busy (MWFB) is enabled in LD 15), and**
- 5 Call Forward Busy (DID calls only).**

If no Call Forwarding feature is defined for the busy AAA DN, the call remains on the Attendant Console, and the AAA timer is restarted. When the AAA timer expires, the call is again forwarded to the AAA DN.

Operating parameters

Attendant Alternative Answering (AAA) is defined and applicable on a customer basis only, not at the Console Presentation Group (CPG) level. It only handles calls presented to the console, not calls in the attendant queue. It is recommended that the AAA DN assigned to an attendant be within the same CPG as the attendant.

Only 63 Attendant Consoles can be assigned per customer. Only one AAA DN can be assigned per attendant; thus, this feature is limited to 63 AAA DN's per customer, one for each Attendant Console.

With Night Service (NSVC) enabled and active, calls are rerouted to the Night Service DN. Calls presented to the NSVC DN are not subject to AAA.

The AAA DN must be a valid DN or ACD DN. If invalid, the call stays on the console.

The AAA DN defined is not subject to pretranslation. The AAA DN must be the actual DN.

This feature allows more than one backup of the attendant to be available, provided the designated alternative DN is defined as a member of a Call Pickup group or as a Multiple Appearance DN.

Feature interactions

Attendant Overflow Position (AOP)

The AOP DN handles calls from the attendant queue if all Attendant Consoles are busy or in the Position Busy mode. Calls presented to the AOP DN are not subject to AAA.

Attendant Recall (ARC)

Under ARC conditions, the initiator of the recall rings the destination side of the console, and the third party becomes the source. The AAA timer is applied to the source party. If the AAA timer expires, the destination is dropped, and the source is forwarded to the AAA DN. If the source party disconnects before the destination party, the AAA timer is restarted on the destination party still buzzing the attendant through the ARC key. The AAA timer is dropped if both parties disconnect.

Call Forward All Calls

Call Forward All Calls takes precedence over all other Call Forwarding features for a particular telephone. Calls forwarded by AAA are subject to the Call Forwarding conditions on the AAA DN.

Call Forward Busy

If Call Forward Busy is allowed for the AAA DN (and that DN is busy), a DID call is returned to the attendant and can again be eligible for AAA timing and operation.

Call Forward by Call Type (CFCT)

If Call Forward by Call Type is enabled on the AAA DN, calls are forwarded based on the Call Type of the originator.

Call Forward No Answer (CFNA)

When the AAA DN does not answer, the call can be forwarded by CFNA to the DN defined as the CFNA DN for the originally dialed DN. If the originally dialed DN is the attendant, the call is forwarded to the CFNA DN defined for the AAA DN.

Centralized Attendant Service (CAS)

The AAA timer is not applied to CAS calls routed from the remote CAS location through the Release Link Trunk to the main CAS attendant. All other internal or trunk calls presented to the CAS attendant at the main location are timed by AAA as usual.

If the remote CAS attendant presses the CAS key while a call is being presented, the presented call is subject to AAA timing and is forwarded to the AAA DN at the remote location after the timer expires.

Do Not Disturb (DND)

A DN in the DND mode is free to originate calls but appears busy to incoming calls. Call Forward All Calls takes precedence over DND indication on AAA DNs.

Hunting

Calls directed to a busy AAA DN with Hunt defined are routed down the Hunt chain as defined for the AAA DN.

A Pilot DN for a hunting group can be defined as an AAA DN. Calls forwarded to a Pilot DN are directed to the next DN in the group.

Message Center

If the AAA DN is a Message Center (MWC), then a Message Center call to the attendant and forwarded by AAA is still treated like a Message Center call.

Multi-Tenant

Tenant-to-tenant access must be allowed between an internal caller and the AAA DN. If caller-to-AAA access is denied, the call remains on the console until the call is answered or dropped.

Call Pickup

The AAA DN can be assigned to a Call Pickup group to allow members of the same group to answer the call.

Feature packaging

Attendant Alternative Answering (AAA) package 174 has no feature package dependencies; however, this package is mutually exclusive with Attendant Forward No Answer (AFNA) package 134.

Feature implementation

LD 15 – Implement the Attendant Alternate Answering feature in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- ATIM	(0)-126	AAA timer in two-second increments. Odd numbers are rounded down. ATIM = 0 disables the feature

LD 12 – Define the AAA DN for each Attendant Console affected.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
AADN	xxx...x	Attendant Alternative Answering DN.

Feature operation

No specific operating procedures are required to use this feature.

Attendant and Network-Wide Remote Call Forward

This modification to the Remote Call Forward (RCFW) feature allows a user to program a Call Forward Directory Number from any attendant console or station throughout the network. A new RFW key on the attendant console allows an attendant to view any station's Call Forward status and to activate or deactivate Call Forward for a station.

Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100) for further details.

Attendant Barge-In

Attendant Barge-In allows the attendant to establish a connection with any trunk in the system to verify that the trunk is in working order. When Barge-In is active, a 256 millisecond burst of tone is sent to the connected parties every six seconds to indicate the presence of the attendant.

Operating parameters

Barge-In can only be used for trunks with Warning Tone Allowed (WTA) Class of Service. All parties connected to the trunk when the attendant attempts to barge in must have WTA Class of Service.

If equipped, the Barge-In key must be assigned to key 1 of the console flexible feature strip.

The system must be equipped with a conference loop.

Feature interactions

Automatic Redial

Attendant Barge In is not allowed to a trunk that is currently used for the Automatic Redial call redialing. This is done to avoid creating a conference when the tone detector is involved.

Call Detail Recording 100 Hour Call

For external PAGENET uncontrolled calls, Attendant Barge-In is blocked at the Paging node, per existing operation.

For external PAGENET controlled calls, Attendant Barge In is blocked at both the originating and Paging node.

Feature packaging

The Attendant Barge-In feature is included in base system software.

Feature Implementation

LD 12 – Add/change a Barge-In key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	1 BIN	Add a Barge-In key.

LD 10 – Allow/deny a warning tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	(Allow) deny warning tone.

LD 11 – Allow/deny a warning tone Class of Service for Meridian proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(WTA), WTD	(Allow) deny warning tone.

LD 14 – Allow/deny warning tone Class of Service for trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	(Allow) deny warning tone.

Feature operation

To establish a connection on a trunk, follow these steps:

- 1** Select an idle loop key.
- 2** Press **Barge-In**.
- 3** Dial the route access code and the trunk member number, followed by the octothorpe (#).

Possible results are:

- dial tone (trunk is idle and working)
- conversation (trunk is busy and working)
- modem carrier tone (long distance trunk is working), and
- fast busy (trunk is either disabled or has Warning Tone Denied Class of Service).

If you hear fast busy, check the trunk again before reporting a problem.

Attendant Blocking of Directory Number

Attendant Blocking of Directory Number (DN) allows a person to dial the attendant DN and request an external (long distance) call, and then disconnect while waiting for the call to be processed by the attendant. The requesting DN is idle and can receive and make calls.

When the attendant is ready to make the external (long distance) call, the Attendant Blocking of DN feature provides the attendant with the ability to block the DN while the external call request is being processed. The line appears busy to any caller attempting to contact the blocked DN. The blocked DN cannot be used to originate a call and will be connected to the attendant if it goes off hook. When the attendant has completed the external call, the blocked DN can be rung and the call extended. The attendant is guaranteed that the requesting DN is not busy and is available to take the call when the processing has been completed. This feature works in both standalone and Meridian 1 Customer Defined Network (MCDN) environments.

Previously, this feature had been available on Swedish A345 PBXs, but now is also available on the Meridian 1 Option 11C Compact. Although developed for Telia Sweden, the feature is applicable to all marketplaces desiring Attendant Blocking of DN functionality.

Operating parameters

The Attendant Blocking of DN feature can only be activated as the source party of the Loop key on the Attendant Console.

The attendant has the ability to use the Attendant Blocking of DN feature only for the following types of DNs: sets with ordinary Single Call Arrangement Non Ringing key (SCN)/Single Call Arrangement Ringing key (SCR) DNs and analog (500/2500 type) telephones. HOT DNs, Multiple Call Arrangement Non Ringing key (MCN)/Multiple Call Arrangement Ringing key (MCR) DNs, Automatic Call Distribution (ACD) DNs, Primary Line DNs (PLDNs), any trunk access code, Flexible Feature Codes (FFCs), Basic Rate Interface (BRI) and all other types of extensions are considered to be invalid for the Attendant Blocking of DN feature.

When the Attendant Blocking of DN feature is activated for a DN, it is only the DN dialed that is blocked. Other DNs assigned to the set will be idle.

If Attendant Blocking of DN is attempted on a Multiple Appearance Single Call Arrangement DN, all idle appearances of the DN will be blocked.

The Attendant Blocking of DN will only be supported on the following Attendant Console types: M2250; M1250; QCW4; QCW8; or M345CD.

No new hardware is required for this feature.

Feature interactions

Advice of Charge for EuroISDN

For Advice of Charge at start of the call (AOC-S) and during the call (AOC-D), charging information is assigned respectively to the Attendant and the set's Message Registration (MR) meters for the charge incurred before and after the call transfer completion by an attendant. Advice of Charge at end of the call (AOC-E) charging information is assigned to the set's MR meter.

Attendant Hold

An Attendant Blocking of DN call can be put on hold by the attendant and will in this case be subject to normal Attendant Hold treatment. The Semi-automatic Camp-on (SACP) key lamp will be dark while on hold and be lit again when taken off hold. The same applies to Automatic Hold on the Loop key.

Automatic Call Distribution

It is not possible to activate the Attendant Blocking of DN feature for an Automatic Call Distribution (ACD) DN. If an attempt to block an ACD DN is made, the attempt will be canceled and overflow tone will be returned. However, individual DNs on ACD sets can be blocked.

Automatic Redial

An Automatic Redial (ARDL) redialed call is blocked from the calling party if an attendant uses the Attendant Blocking of Directory Number feature on the calling party's DN.

Break-in

The Attendant Blocking of DN and the source side Predial Break-in features are mutually exclusive for the same call. If the SACP key lamp is lit when the Break-in key is pressed to start a Predial Break-in attempt, the Break-in key is ignored. On the contrary, if the Break-in key lamp is lit and no call attempt is made on the source side when the SACP key is pressed to start an Attendant Blocking of DN, the SACP key is ignored.

If a Break-in attempt is made for an Attendant Blocking of DN call, the Break-in attempt will be considered to be temporarily denied.

It will be possible to Break-in on the destination side with an Attendant Blocking of DN call on the source side of the Attendant Console. The same limitations to Break-in will apply as if the source side call is a normal call.

Busy Lamp Field/Enhanced Busy Lamp Field

When a DN is blocked due to the Attendant Blocking of DN feature, the Busy Lamp Field/Enhanced Busy Lamp Field lamp corresponding to this DN displays the busy status of the DN as for ringing calls.

Busy Verify

The Attendant Blocking of DN and source-side Busy Verify are mutually exclusive for the same call. If the SACP key lamp is lit when the Busy Verify key is pressed to start a Busy Verify attempt, the Busy Verify key is ignored. On the contrary, if the Busy Verify lamp is lit when the SACP key is pressed to start an Attendant Blocking of DN attempt, the SACP key is ignored.

If a Busy Verify attempt is made on an Attendant Blocking of DN call, it will be denied.

Call Detail Recording Time to Answer

If the CDR Time to Answer feature is active, the time registration before answer will be started when the SACP key is pressed to ring the blocked DN and not when the DN is blocked.

Call Forward All Calls

Call Forward, Internal Calls

Call Forward and Busy Status

The Attendant Blocking of DN feature will override these Call Forward features. If the dialed DN of the set is idle, the DN can be blocked; if the DN is busy, busy tone will be heard.

Call Forward/Hunt Override Via Flexible Feature Code

Using Call Forward/Hunt Override FFC after activation of ABDN is not allowed. Any attempt will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Forward No Answer

The Attendant Blocking of DN feature will override the Call Forward No Answer feature. If the blocked DN of the set has the Call Forward No Answer feature active when the SACP key is pressed to ring the DN, the DN will ring until answered or disconnected. No Call Forward No Answer will be done for the Attendant Blocking of DN call.

Call Park

It is not possible to park an Attendant Blocking of DN call. If a Call Park call recalls to a blocked DN, the recall will be treated as if the DN is in a ringing state.

Call Waiting

If a set that has the Station-to station Call Waiting feature active (CLS SWA and a Call Waiting (CWT) key for SL-1 and digital sets) is idle when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be allowed and processed as normal. If the DN is idle and there is an active call on the Call Waiting key, the Attendant Blocking of DN attempt will be allowed.

If a set has the Station-to-station Call Waiting feature active and the DN to be blocked is busy when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be canceled and busy tone will be returned.

For a set that has the Call Waiting (or Station-to-station Call Waiting) feature active and a DN is blocked due to the Attendant Blocking of DN feature, any incoming call to the blocked DN will receive busy tone.

Camp-on

Camp-on will be denied for a DN that is blocked due to the Attendant Blocking of DN feature.

Digital Private Signaling System #1 (DPNSS1) Executive Intrusion

If an Executive Intrusion attempt is made for an Attendant Blocking of DN call, the Executive Intrusion attempt is denied.

Directory Number Delayed Ringing

The Attendant Blocking of DN feature will override the Directory Number Delayed Ringing feature and ring the blocked DN immediately when the SACP key is pressed to ring the blocked DN.

Do Not Disturb

The Attendant Blocking of DN feature will override the Do Not Disturb feature. If the dialed DN of the set that has the Do Not Disturb feature active is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Flexible Feature Code Boss Secretarial Filtering

The Flexible Feature Code (FFC) Boss Secretarial Filtering feature will be overridden. If an Attendant Blocking of DN attempt is made for a set that has the Boss Secretary Filtering feature active, the dialed DN will be blocked if idle. If it is busy, busy tone will be heard.

Flexible Feature Codes

If a Flexible Feature Code is dialed after pressing the SACP key to initiate an Attendant Blocking of DN attempt, overflow tone will be provided and the attempt cancelled.

Group Hunting

It is not possible to activate the Attendant Blocking of DN feature for a Pilot DN (PLDN). If an attempt is made to block a PLDN, the attempt will be canceled and overflow tone will be returned. If a DN that is a member in a Group Hunt (or Hunt) list is blocked by the Attendant Blocking of DN feature, the DN is considered to be busy.

HOT DN

It is not possible to activate Attendant Blocking of DN for a HOT DN extension. If an attempt to block a HOT DN extension is made, the attempt will be canceled and overflow tone will be returned.

Hunting

If Attendant Blocking of DN is attempted on a busy DN having the Hunting feature active, busy tone will be returned (overriding the Hunting feature).

Idle Extension Notification

The Attendant Blocking of DN feature and the Idle Extension feature both use the SACP key for feature activation on the source side of the Attendant Console. The difference is that Attendant Blocking of DN only is valid when dialing a DN, whereas Idle Extension Notification only is valid when a busy DN is reached. If an Attendant Blocking of DN attempt is made for a DN that is busy, the Attendant Blocking of DN is canceled and it is possible to activate the Idle Extension Notification feature for the busy DN.

Intercept Computer Interface

The Attendant Blocking of DN feature will override the Intercept Computer Interface (ICP) Call Forward feature. If the dialed DN of the set that has the ICP Call Forward feature active is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

ISDN Basic Rate Interface (BRI) Trunk Access

It is possible to use the Attendant Blocking of DN feature in an ISDN MCDN based on BRI TIE trunks if Network Attendant Service (NAS) is configured in the network.

Line Lockout

If an Attendant Blocking of DN attempt is made on a set in Line Lockout state, busy tone will be returned.

Make Set Busy

The Attendant Blocking of DN feature will override the Make Set Busy feature. If the dialed DN of the set that has the Make Set Busy feature is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Multiple Appearance Multiple Call Arrangement

It is not possible to activate the Attendant Blocking of DN feature for a Multiple Appearance Multiple Call Arrangement DN (MCA DN (MCN/MCR)). If an attempt is made to block an MCA DN (MCN/MCR), the attempt will be canceled and overflow tone will be returned.

Multiple Appearance Single Call Arrangement

If Attendant Blocking of DN is attempted on a Multiple Appearance Single Call Arrangement DN (SCA DN (SCN/SCR)), all appearances of the DN will be blocked.

Network Intercom

A Hot Type I key cannot be blocked by the attendant, because it has no DN.

Pressing a Hot Type D key that is attendant blocked establishes the call on the source side of the attendant.

New Flexible Code Restriction

When the attendant has a blocked DN on the source side and dials on the destination side, any New Flexible Code Restriction active for the set of the blocked DN will be overridden. This is the same as if the attendant had a normal established call to the DN on the source side and dials the destination side.

Phantom Terminal Numbers (TNs)

DNs on Phantom TNs will not be overridden by the Attendant Blocking of DN feature.

Radio Paging

If a transferred Radio Paging call recalls to a blocked DN, the recall will be treated as if the DN is busy.

Ring Again

It is possible to activate Ring Again towards a DN that is blocked due to the Attendant Blocking of DN feature.

Ringling Change Key

When the SACP key (or Signal Source) key is pressed to ring a blocked SCR where the Ring Change feature is activated, an audible ring signal will always be given. This is independent of the Ring Change status.

Ring/Hold LED Status

When a DN is blocked, the status of the DN lamp will be the same as for a call put on hold.

Semi-automatic Camp-on

The Attendant Blocking of DN feature uses the SACP key to activate a blocking attempt, but the Attendant Blocking of DN feature is only valid on the source side of the Attendant Console. The Semi-automatic Camp-on feature is only valid on the destination side of the Attendant Console.

To have the Attendant Blocking of DN feature available and not the Semi-automatic Camp-on feature, a new response to the SACP prompt has been introduced in LD 15. Prompt SACP = NO means the Semi-automatic Camp-on feature is not available even if the SACP package is equipped and an SACP key exists on the Attendant Console. To have the Semi-automatic Camp-on feature available the SACP prompt must be answered with SNGL or ALL which have the same meanings as before.

Signal Source

The Signal Source key can be used to notify a blocked DN. Using the Signal Source key for an Attendant Blocking of DN call will give the same response as the SACP key when the DN is blocked (i.e., ring the blocked DN and darken the SACP key lamp). The Signal Source key cannot be used to initiate an Attendant Blocking of DN call.

Single Call Non Ringing DN

When the SACP (or Signal Source) key is pressed to ring a blocked Single Call Non Ringing DN (SCN), an audible ring signal will be given.

Source Included when Attendant Dials

The Attendant Blocking of DN feature will follow the current Source Included when Attendant Dialing handling occurs.

Vacant Number Routing

The Attendant Blocking of DN feature will work across an ISDN network if the call is routed due to the Vacant Number Routing feature.

Feature packaging

The Attendant Blocking of DN feature is packaged under Semi-automatic Camp-on (SACP) package 181.

To work in an ISDN network environment, Network Attendant Services (NAS) package 159 is required.

Feature Implementation

LD 12 – Configure the SACP key on the Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Attendant Console type.
TN	c u	Terminal Number.
...		
KEY	xx SACP	Semi-automatic Camp-on key.

LD 15 – This overlay has been modified to enable the Attendant Blocking of DN feature.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		

ATT	YES	Change Attendant Console options.
...		
- SACP	(NO), ALL, SNGL	Semi-automatic Camp-on not allowed. Semi-automatic Camp-on for all Camp-on occurrences. Semi-automatic Camp-on on a per call basis.
- ABDN	(NO), YES	Activation of the Attendant Blocking of DN feature is (not) allowed. The ABDN prompt only appears when the SACP package is equipped.

Feature operation

To block a DN

- 1 The attendant presses an idle Loop key.
- 2 The attendant presses the Semi-automatic Camp-on (SACP) key.
- 3 The SACP key lamp lights.
- 4 The attendant dials the source DN that is to be blocked. If the dialed DN is idle, the DN lamp will have the same state as a call put on hold, but the DN will not ring. If the DN is busy, the attendant hears busy tone and the SACP key lamp darkens.
If the dialed DN is idle, it is blocked. The DN lamp indicates a call on hold state, although the DN will not ring (for analog (500/2500 type) telephones, there is no indication that the DN is blocked.) On the Attendant Console, the SACP key lamp remains lit and the Source key lamp begins blinking.

If the dialed DN is busy, the attendant presses the Release (or Release SRC) key to release the call.

To place an outgoing call for the blocked DN

- 1 The attendant establishes a call to the desired destination in the normal way.
- 2 The attendant presses the SACP (or Signal SRC) key. The ringback tone is heard.
- 3 If the source DN answers, the attendant presses the Release key to extend the call between the destination to the source.

To release a blocked DN

The attendant presses either the SACP key or Signal Source key to ring the DN

– or –

The attendant presses either the Release key or the Release Source key to release the source DN, which then becomes idle.

To notify a blocked DN of an established call

The attendant presses the SACP or Signal Source key.

Attendant Break-In

The Attendant Break-In (BKI) feature simplifies the process required if an attendant must break in to an established call. When an attendant receives an urgent call and dials the destination DN, that DN may be busy. The attendant may then have to break in to the call. This feature provides a new key, the Break-In key, on the Attendant Console, and allows the attendant to extend a call to a busy extension through a simple key operation.

The break-in process involves the following steps:

- 1** Use the Break-In key upon receiving the busy tone. This action establishes a conference between the attendant and the members of the established call (but excludes the incoming call). Parties hear the intrusion tone; secrecy is preserved.
- 2** Announce that an important call is waiting and request that the other parties disconnect from the call.
- 3** Extend the incoming call to the previously busy DN as soon as the other parties disconnect.

By using the Break-In key before dialing the destination DN, the attendant can override features such as Call Forward and Hunting.

Operating Parameters

The Attendant Break-In feature is supported on analog (500/2500 type) and digital telephones.

A console can have only one Break-In key.

A break-in connection cannot be put on hold.

Only one attendant at a time can break in to a call.

Attendant Break-In does not operate in the following situations:

- A party to the established call has Override Denied or Warning Tone Denied Class of Service
- The established call involves any of the following:
 - An attendant
 - Multi-frequency Compelled (MFC) device type
 - Digitone Receiver (DTR) device type
 - Page trunk
 - Dictation trunk
 - Recorded Announcement trunk
 - Integrated Voice and Message System (IVMS)
- The destination DN is on an outgoing trunk call. If the station is involved with an outgoing trunk call, the call is established when End of Dialing (EOD) times out, the number is dialed, or the trunk is answered.

Feature interactions

Attendant Blocking of Directory Number

The Attendant Blocking of DN and the source side Predial Break-in features are mutually exclusive for the same call. If the SACP key lamp is lit when the Break-in key is pressed to start a Predial Break-in attempt, the Break-in key is ignored. On the contrary, if the Break-in key lamp is lit and no call attempt is made on the source side when the SACP key is pressed to start an Attendant Blocking of DN, the SACP key is ignored.

If a Break-in attempt is made for an Attendant Blocking of DN call, the Break-in attempt will be considered to be temporarily denied.

It will be possible to Break-in on the destination side with an Attendant Blocking of DN call on the source side of the Attendant Console. The same limitations to Break-in will apply as if the source side call is a normal call.

Automatic Redial (ARDL)

Attendant Break-In is not permitted on a Meridian 1 proprietary set that is used for an ARDL call. These restrictions avoid creating a conference when the tone detector is involved in the call.

Automatic Call Distribution (ACD)

Once the destination DN has established the call with the ACD agent, the attendant can break in to the call. If the destination DN is in the ACD queue, Attendant Break-In is temporarily denied.

Camp-On and Call Waiting

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Call Forward All Calls

By pressing the Break-In key before dialing the destination DN, the attendant can override call forwarding on the destination DN. The attendant may not apply Camp-On to a telephone with Call Forward active.

Call Park

The attendant cannot break in to a parked call.

Call Transfer

The attendant cannot break in to a call that is being transferred until the transferred call is connected.

Conference

If the attendant cannot break in to a conference call because the call is supporting the maximum number of callers, busy tone continues and the Break-In key lamp flashes.

Digit Display

During Attendant Break-In, the Attendant Console Digit Display shows the DN of the incoming call and the destination DN until the attendant extends the incoming call to the destination DN and releases the connection.

Enhanced Override

Telephones with a toll operator break-in call cannot be camped on to or overridden. Overflow tone is returned to telephones attempting either Forced Camp-on or Priority Override.

Forced Camp-on

Telephones with a toll operator break-in call cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-on.

Hold

The attendant cannot break in to a call on hold.

Hunting

If the destination DN is in a Hunting chain with some idle DNs, the Break-In request goes to the first idle DN in the chain. To prevent this occurrence, the attendant can press the Break-In key prior to dialing the destination DN.

Make Set Busy and Do Not Disturb

For a telephone with Make Set Busy or Do No Disturb in effect, Break-In is temporarily denied to the attendant. The Break-In lamp uses slow flash to indicate this situation. Using the Break-In key prior to dialing the destination DN circumvents this situation. After the Break-In, the telephone returns to its prior status.

Meridian 911 Call Abandon

Since an abandoned call does not have a speech path established, the Break-In deny treatment is given to the attendant so that Break-In cannot occur.

Multiple Appearance Directory Number (MADN)

The attendant may get a busy tone if all the telephones with the required DN are busy. Break-In permits the attendant to break in to the connection with the least restricted TN. Where more than one TN exists that meets this criterion, Break-In chooses the one at the bottom of the DN block.

Multi-Party Operations – Three-Party Service

Break-In is not allowed to the party receiving the patience tone or the misoperation ringback.

Override

When one Meridian 1 telephone has overridden an existing call to establish a conference call, Break-In is temporarily denied. The attendant is notified by the override tone.

Priority Override

Telephones with a toll operator break-in call cannot be overridden. Overflow tone is returned to telephones attempting Priority Override.

Semi-Automatic Camp-On

The attendant can Break-in to an established call and apply Semi-automatic Camp-on to the desired party. The attendant may press the SACP key before or after the Break-in.

Trunk Barring

Trunk Barring does not result in intercept treatment for Toll Operator Break-In.

Feature packaging

Attendant Break-In (BKI) is package 127.

Feature implementation

LD 12 – Assign Break-In key on the Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Attendant Console type.
TN	c u	Terminal Number.
KEY	xx Bkl	Break-In key.

Feature operation

The operator can press the Break-In key either before or after dialing the destination DN. Break-In operates slightly differently in these two situations, as described below.

For Post-Dial Break-In:

- 1 The attendant answers an incoming external call.
- 2 The attendant dials the destination DN.
- 3 The attendant receives the busy tone (unless the destination DN allows Camp-On or Call Waiting).
- 4 The attendant presses the Break-In key.
- 5 If allowed, the attendant joins the call on the destination DN to announce the incoming call and request that other parties disconnect. (See [Table 3](#) on [page 84](#) for an explanation of console break in states.)
- 6 After the other parties disconnect, the attendant extends the incoming call to the destination DN.

For Pre-Dial Break-In:

- 1 The attendant answers an incoming external call.
- 2 The attendant presses the Break-In key.
- 3 The attendant dials the destination DN.

- 4 If the destination DN is busy, the attendant hears the busy tone; processing is the same as for Post-Dial Break-In above.

If the destination DN is not busy, the DEST lamp flashes and the Break-In lamp goes dark. The attendant hears the ringback tone. Pressing the Break-In key a second time causes normal call processing for an idle line.

If the destination DN is invalid, the attendant hears the overflow tone and the Break-In lamp goes off. To return to the source call, the attendant presses the Release Destination key.

Table 3 describes the possible Attendant Console break in states. These states depend on several factors:

- whether the source call is an external call
- the type of call in effect at the destination DN
- the combination of features allowed at the destination DN, and
- whether the attendant pressed the Break-In key before or after dialing the destination DN.

Table 3
Attendant Console Break-In States

Console State	Lamp State	Description
ALLOW	Destination = LIT Break-In = LIT Tone = INTRUSION	The attendant can break in to the call and extend the incoming call.
CONSULT ONLY	Destination = FLASH Break-In = LIT Tone = INTRUSION	The attendant can break in to the call but cannot extend the incoming call.
TEMPORARILY DENIED 1	Destination = FLASH Break-In = FLASH Tone = BUSY/ OVERRIDE	The attendant temporarily cannot break in to the call, and may attempt the break in later.
TEMPORARILY DENIED 2	Destination = FAST FLASH Break-In = FLASH Tone = OVERFLOW	The attendant temporarily cannot break in to the call.
DENIED	Destination = FLASH Break-In = DARK Tone = OVERFLOW	The attendant cannot break in to the established call or extend the incoming call.
BREAK-IN IGNORED	Destination = FLASH Break-In = DARK Tone = RING BACK	The attendant cannot break in. The attendant should make a second break in attempt.
INVALID DN	Destination = FLASH Break-In = DARK Tone = OVERFLOW	The attendant attempted to reach an invalid DN. The attendant should dial the correct destination DN.

Attendant Busy Verify

Attendant Busy Verify allows the attendant to establish a connection with any apparently busy DN to verify that the DN is actually busy and in working order. This feature can also be used to connect with a busy station if an emergency situation requires call interruption by the attendant.

When Busy Verify is active, a 256 millisecond burst of interrupted tone is sent every six seconds to indicate the presence of the attendant. The attendant can Busy Verify only those stations with Warning Tone Allowed Class of Service.

When a station is involved in a conference, the attendant can verify whether the station is busy even if it has Warning Tone Denied Class of Service.

An attendant can also use either the Release Source or Release Destination key on the console to release one of the parties involved in a Busy Verify conference.

Operating parameters

The system must be equipped with a conference loop.

If equipped, the Busy Verify key must be assigned to key 0 of the console flexible feature strip.

Feature interactions

Attendant Break-In

The attendant can use the Break-In key instead of Busy Verify to break in to an established call. Attendant Break-In simplifies this process.

Automatic Redial (ARDL)

Attendant Busy Verify is not permitted on a Meridian 1 proprietary set that is used for an ARDL call. These restrictions avoid creating a conference when the tone detector is involved in the call.

Call Forward All Calls

If the DN is call forwarded to the Attendant Console, the attendant will receive a click followed by silence.

Hunting and Call Forward Busy

Hunting and Call Forward Busy do not affect Busy Verify.

Feature packaging

Attendant Busy Verify is included in base system software.

Feature implementation

LD 12 – Add/change a Busy Verify key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	0 BVR	Add a Busy Verify key.

LD 10 – Allow/deny Warning Tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Allow or deny warning tone.

LD 11 – Allow/deny Warning Tone Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, 2616.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Allow or deny warning tone.

LD 14 – Allow/deny Warning Tone Class of Service for trunks.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
CLS	(WTA), WTD	Allow or deny warning tone.

Feature operation

To verify a busy DN, follow these steps:

- 1** Select an idle loop key.
- 2** Press **Busy Verify**.
- 3** Dial the DN of the station.

If the DN is idle, press **Signal Source** to ring the station.

Possible results are:

- silence (DN is idle and working)
- conversation (DN is busy and working), or
- fast busy (station is disabled or has Warning Tone Denied Class of Service).

- 4 Press the **Rls** key to disconnect from the call.

An enhancement to Busy Verify feature offers the following functionality. Party A is on a call with Party B. The attendant:

- 1 Selects an idle loop key.
- 2 Presses **Busy Verify**.
- 3 Dials Party A and creates a Busy Verify conference between Party A, Party B, and the attendant.

The use of the **Rls DEST** and **Rls SOURCE** keys are allowed at this point as follows:

- 4 The attendant can press the **Rls DEST** key to release Party A from the Busy Verify conference, or

The attendant can press the **Rls SOURCE** key to release Party B from the Busy Verify conference.

Attendant Call Selection

All calls to the attendant, with the exception of slow-answer recalls, are automatically queued in order of arrival. The attendant can answer a call in two ways:

- Calls can be answered in the order received, regardless of call type, using the Loop key (LPK).
- A particular call type can be answered before other calls in the queue by manually selecting the appropriate Incoming Call Indicator (ICI) key.

The first call presented to an idle console is indicated by the appropriate ICI lamp. All subsequent calls are indicated by the Calls Waiting lamp only until the first call is released. All appropriate ICI lamps will then light, and an attendant may select a specific incoming call type by pressing the appropriate ICI key.

If a customer has multiple consoles, the first call in queue is presented to the first idle console.

Operating parameters

The maximum number of ICI lamps per Attendant Console is 20. All consoles associated with a customer have the same ICI assignments.

Feature interactions

There are no interactions with other features.

Feature packaging

Attendant Call Selection is included in base system software.

Feature implementation

No change to existing configuration is required for the Attendant Call Selection feature.

Note: To implement ICI, see the Attendant Incoming Call Indicators feature description contained within this document.

Feature operation

- 1 Press the Loop key to answer calls in the order received, or
- 2 Press the appropriate ICI key to answer a call by call type.

Attendant Calls Waiting Indication

Call Waiting on the console gives the attendant an indication of the number of calls in the console queue and the length of time they have been waiting to be answered. Each console is equipped with a Call Waiting indicator. The indicator is dark when no calls are waiting in the queue. The indicator is steadily lit when one or more calls are waiting. The indicator flashes when the number of waiting calls exceeds the customer defined threshold, or when a call has been waiting longer than the specified number of seconds.

The two thresholds that control the lamp states are defined in the Customer Data Block. The time delay threshold can be specified from 0 to 511 seconds in multiples of two seconds. The number of calls threshold can be specified from 0 to 255. If zero is specified, this aspect of the Call Waiting feature is not operational.

An option is also provided to supply a two-second buzz to notify the attendant when the first call enters the queue or when the Call Waiting lamp changes from steadily lit to flashing, or both.

If the threshold has been exceeded and the Call Waiting indicator is flashing, it changes to steadily lit when the threshold is no longer exceeded by either number of calls or time delay.

Operating parameters

If neither the time delay or number of calls thresholds are defined, the Call Waiting lamp state will not change from steadily lit to flashing.

Feature interactions

Call Park on Unsupervised Trunks

If all the attendants are busy and a Call Park Recall occurs, the recall is placed in the calls waiting queue. If the recalled station is busy when the recall occurs, the Disconnect Timer (DCTI) temporarily suspends timing until the recall is presented. After the recall is presented, the Disconnect Timer continues timing for the remainder of the period.

Feature packaging

Attendant Calls Waiting Indication is included in base system software.

Feature implementation

LD 15 – Define Call Waiting thresholds and indications for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CWUP	(NO), YES	(Do not) automatically notify Attendant Console (M2250) when the number of calls waiting in queue changes.
- CWCL	(0)-255 (0)-255	Lower and upper bound of the threshold for the number of calls waiting (the default is 0).
- CWTM	(0)-511 (0)-511	Lower and upper bound of the threshold for the time calls are waiting (the default is 0).
- CWBZ	(NO), YES (NO), YES	The two options are: 1. (Disable) enable a buzz to the attendant when either the CWCL or CWTM thresholds are exceeded. 2. (Disable) enable a buzz to the attendant when the first call enters the queue.

LD 12 – Add/change a Display Calls Waiting key on an Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx DCW	Add a Display Calls Waiting key. xx = 0-9 for QCW or M1250 Attendant Console. xx = 00-19 for M2250 Attendant Console.

Feature operation

If CWUP (notify change in Calls Waiting status) is set to YES in LD 15, the number of calls waiting are displayed on the M2250 console. If CWUP is set to NO, the attendant must press the Display Calls Waiting (DCW) key to display the number of waiting calls.

Attendant Consoles

Attendant Consoles assist in placing and extending calls into and out of the Meridian 1 Option 11C Compact system. The operator of an Attendant Console is known as the attendant. The consoles provide the attendant with many unique features that increase the speed and ease of call processing.

This feature module provides an overview of the M2250 Attendant Console and a description of the basic software capabilities and associated service changes. Additional information regarding attendant-related software features may be found in other feature modules in this document.

The M2250 Attendant Console is a digital console with a four-line, 40-character wide, alphanumeric liquid crystal display.

QCW Attendant Consoles

The Attendant Consoles have a digit display at the top of the console and a dial pad below the display. Five vertical keystrips on the console provide access to the functions described in this section.

Vertical keystrip 1

This keystrip at the far left on the console is utilized for Trunk Group Busy (TGB) keys. The attendant may deny stations access to a trunk route by pressing the associated Trunk Group Busy key. Additionally, the lamps associated with Trunk Group Busy keys provide the following visual indication of the status of the trunks within the route:

Dark	Some of the trunks in the route are idle.
Flashing	All of the trunks in the route are busy.
Steadily lit	The attendant has taken control of the route.

The basic Attendant Console has 10 Trunk Group Busy keys. If an add-on module is installed, there are 16 Trunk Group Busy keys.

Vertical keystrip 2

This keystrip is used for Incoming Call Indicator keys. The Incoming Call Indicators (ICIs) identify the type of calls in the queue and the status of each particular call type. Three lamp states are associated with each Incoming Call Indicator key:

Dark	No calls of this type are waiting.
Steadily lit	One call of this type is waiting in queue.
Flashing	Two or more calls of this type are queued, or one call has been waiting longer than 20 seconds.

To select a specific type of incoming call, the Incoming Call Indicator key associated with a steadily lit or flashing LED is pressed. The call is removed from the queue and presented to an idle loop key on the Attendant Console.

The basic Attendant Console has 10 Incoming Call Indicator keys. If an add-on module is equipped, the console may have 20 Incoming Call Indicator keys. An Incoming Call Indicator key may be assigned to one or more of the call types listed in [Table 4](#).

Table 4
Incoming Call Indicator key assignments

Key	Mnemonic	Meaning
00-19	CAX	Station Category Number (x = 1-7)
00-19	CFB	Call Forward Busy
00-19	CFN	Call Forward No Answer
00-19	DF0	Dial 0 fully restricted
00-19	DL0	Dial 0
00-19	IAT	Inter-attendant call
00-19	INT	Intercept
00-19	LCT	Lockout
00-19	LD0	Listed DN 0
00-19	LD1	Listed DN 1
00-19	LD2	Listed DN 2
00-19	LD3	Listed DN 3
00-19	MWC	Attendant Message Center
00-19	RLL	Recall
00-19	Rxxx	Route number

Vertical keystrip 3

This keystrip includes the following operating keys:

Release – Allows the attendant to release a call from the console. When the release lamp is lit, it indicates that no incoming calls are being presented to the console.

Loop key/lamps – Allows the attendant to answer and originate calls from the console. The first call in the attendant queue is automatically presented to an idle loop key. Subsequent calls are queued and presented to a loop key when the console becomes idle.

Position Busy – Puts the console into the Position Busy mode. All incoming calls are then redirected to another console in a multiple-console installation or to a night number in a single console installation.

Night Service – Permits incoming calls to be routed to preselected stations when all Attendant Consoles are in the Night mode.

Signal Remote – Provisioned if Centralized Attendant Service (CAS) is in use.

Three lamp indicators, positioned on the upper right-hand side of the keystrip, provide the following information:

- **Two Alarm indicators:** When steadily lit, the minor alarm lamp indicates the system has detected a malfunction that does not affect normal call processing. When the major alarm lamp is steadily lit, the system has detected a malfunction that does not permit normal call processing.
- **Call Waiting indicator:** The Call Waiting lamp indicates the number of calls in the attendant queue and the length of time they have been waiting to be answered. The lamp changes from steadily lit to flashing when waiting calls exceed a certain number, or when a call has been waiting longer than a specified time. The number of waiting calls are displayed by pressing the Display Calls Waiting key, if assigned.

Vertical keystrip 4

This keystrip provides the following fixed feature keys:

Hold – Allows the attendant to hold a call at the console.

Conference – Permits the attendant to set up a conference of up to five conferees, plus the attendant.

Release Destination – Allows the attendant to release the called party from a call held at the console, while holding the calling party.

Release Source – Allows the attendant to release the calling party from a call held at the console, while holding the called party.

Signal Source and Destination – Allows the attendant to recall either party to a call held on the console.

Exclude Destination – Excludes the called party from an established call held at the console, allowing the attendant to speak privately with the calling party.

Exclude Source – Excludes the calling party from an established call held at the console, allowing the attendant to speak privately with the called party.

Volume Control – Allows the attendant to change the volume of alerting signals. Each depression of the key changes the volume of the signal by one step in an eight step range.

Vertical keypad 5

The optional features listed in [Table 5](#) can be defined on this keypad.

Table 5

Attendant Console optional feature key assignments (Part 1 of 2)

Key	Mnemonic	Meaning
00	BVR	Busy Verify
01	BIN	Barge-In
00-09	ADL	Autodial
02-09	AWU	Automatic Wake Up
00-09	CHG	Charge Account
00-09	CPN	Calling Party Number
00-09	DCW	Display Calls Waiting
00-09	DDL	Do-Not-Disturb, Individual
00-09	DDT	Display Date
00-09	DPD	Display Destination

Table 5
Attendant Console optional feature key assignments (Part 2 of 2)

Key	Mnemonic	Meaning
00-09	DPS	Display Source
00-09	DTM	Display Time
02-09	EES	End-to-End Signaling
00-09	GND 0-99	Group Do-Not-Disturb
00-09	MCK	Message cancellation
00-09	MDT	Display/Change Date
00-09	MIK	Message indication
00-09	MTM	Display/Change Time
00-09	PAG xxx...x	Paging (xxx...x = route access code)
00-09	PRG	Attendant Administration
00-09	PRK	Call Park
00-09	RDL	Stored Number Redial
00-09	RTC	Routing Control
00-09	SCC xxxx	Speed Call Controller (xxxx = list number)
00-09	SSC xxxx	System Speed Call Controller (xxxx = list number)
00-09	TRC	Malicious Call Trace

M2250 Attendant Console

The M2250 Attendant Console has a four line LCD alphanumeric display, each line 40 characters wide, which displays the following information:

- | | |
|--------|--|
| Line 1 | Displays the time and date. |
| Line 2 | Displays call source information. |
| Line 3 | Displays call destination information. |
| Line 4 | Displays console status information. |

Directly below the display screen is a horizontal row of keys that provide the Position Busy, Night Service, Signal Source, and Signal Destination functions.

The M2250 Attendant Console has a digit display at the top of the console and a dial pad below the display. Five vertical keystrips on the console provide access to the functions described in this section.

Vertical keystrip 1

This keystrip at the far left on the console is utilized for Trunk Group Busy (TGB) keys. The attendant may deny stations access to a trunk route by pressing the associated Trunk Group Busy key. Additionally, the lamps associated with Trunk Group Busy keys provide the following visual indication of the status of the trunks within the route:

- | | |
|--------------|---|
| Dark | Some of the trunks in the route are idle. |
| Flashing | All of the trunks in the route are busy. |
| Steadily lit | The attendant has taken control of the route. |

The basic Attendant Console has 10 Trunk Group Busy keys. If an add-on module is installed, there are 16 Trunk Group Busy keys.

Vertical keystrip 2

This keystrip is used for Incoming Call Indicator keys. The Incoming Call Indicators (ICIs) identify the type of calls in the queue and the status of each particular call type. Three lamp states are associated with each Incoming Call Indicator key:

- Dark
- No calls of this type are waiting.
- Steadily lit
- One call of this type is waiting in queue.
- Flashing
- Two or more calls of this type are queued, or one call has been waiting longer than 20 seconds.

To select a specific type of incoming call, the Incoming Call Indicator key associated with a steadily lit or flashing LED is pressed. The call is removed from the queue and presented to an idle loop key on the Attendant Console.

The basic Attendant Console has 10 Incoming Call Indicator keys. If an add-on module is equipped, the console may have 20 Incoming Call Indicator keys. An Incoming Call Indicator key may be assigned to one or more of the call types listed in [Table 4](#).

Table 6
Incoming Call Indicator key assignments (Part 1 of 2)

Key	Mnemonic	Meaning
00-19	CAX	Station Category Number (x = 1-7)
00-19	CFB	Call Forward Busy
00-19	CFN	Call Forward No Answer
00-19	DF0	Dial 0 fully restricted
00-19	DL0	Dial 0

Table 6
Incoming Call Indicator key assignments (Part 2 of 2)

Key	Mnemonic	Meaning
00-19	IAT	Inter-attendant call
00-19	INT	Intercept
00-19	LCT	Lockout
00-19	LD0	Listed DN 0
00-19	LD1	Listed DN 1
00-19	LD2	Listed DN 2
00-19	LD3	Listed DN 3
00-19	MWC	Attendant Message Center
00-19	RLL	Recall
00-19	Rxxx	Route number

Vertical keystrip 3

This keystrip includes the following operating keys:

Release – Allows the attendant to release a call from the console. When the release lamp is lit, it indicates that no incoming calls are being presented to the console.

Loop key/lamps – Allows the attendant to answer and originate calls from the console. The first call in the attendant queue is automatically presented to an idle loop key. Subsequent calls are queued and presented to a loop key when the console becomes idle.

Position Busy – Puts the console into the Position Busy mode. All incoming calls are then redirected to another console in a multiple-console installation or to a night number in a single console installation.

Night Service – Permits incoming calls to be routed to preselected stations when all Attendant Consoles are in the Night mode.

Signal Remote – Provisioned if Centralized Attendant Service (CAS) is in use.

Three lamp indicators, positioned on the upper right-hand side of the keystrip, provide the following information:

- **Two Alarm indicators:** When steadily lit, the minor alarm lamp indicates the system has detected a malfunction that does not affect normal call processing. When the major alarm lamp is steadily lit, the system has detected a malfunction that does not permit normal call processing.
- **Call Waiting indicator:** The Call Waiting lamp indicates the number of calls in the attendant queue and the length of time they have been waiting to be answered. The lamp changes from steadily lit to flashing when waiting calls exceed a certain number, or when a call has been waiting longer than a specified time. The number of waiting calls are displayed by pressing the Display Calls Waiting key, if assigned.

Vertical keystrip 4

This keystrip provides the following fixed feature keys:

Hold – Allows the attendant to hold a call at the console.

Conference – Permits the attendant to set up a conference of up to five conferees, plus the attendant.

Release Destination – Allows the attendant to release the called party from a call held at the console, while holding the calling party.

Release Source – Allows the attendant to release the calling party from a call held at the console, while holding the called party.

Signal Source and Destination – Allows the attendant to recall either party to a call held on the console.

Exclude Destination – Excludes the called party from an established call held at the console, allowing the attendant to speak privately with the calling party.

Exclude Source – Excludes the calling party from an established call held at the console, allowing the attendant to speak privately with the called party.

Volume Control – Allows the attendant to change the volume of alerting signals. Each depression of the key changes the volume of the signal by one step in an eight step range.

Vertical keystrip 5

The optional features listed in [Table 5](#) can be defined on this keystrip.

Table 7

Attendant Console optional feature key assignments (Part 1 of 2)

Key	Mnemonic	Meaning
00	BVR	Busy Verify
01	BIN	Barge-In
00-09	ADL	Autodial
02-09	AWU	Automatic Wake Up
00-09	CHG	Charge Account
00-09	CPN	Calling Party Number
00-09	DCW	Display Calls Waiting
00-09	DDL	Do-Not-Disturb, Individual
00-09	DDT	Display Date
00-09	DPD	Display Destination
00-09	DPS	Display Source
00-09	DTM	Display Time
02-09	EES	End-to-End Signaling
00-09	GND 0-99	Group Do-Not-Disturb
00-09	MCK	Message cancellation
00-09	MDT	Display/Change Date

Table 7
Attendant Console optional feature key assignments (Part 2 of 2)

Key	Mnemonic	Meaning
00-09	MIK	Message indication
00-09	MTM	Display/Change Time
00-09	PAG xxx...x	Paging (xxx...x = route access code)
00-09	PRG	Attendant Administration
00-09	PRK	Call Park
00-09	RDL	Stored Number Redial
00-09	RTC	Routing Control
00-09	SCC xxxx	Speed Call Controller (xxxx = list number)
00-09	SSC xxxx	System Speed Call Controller (xxxx = list number)
00-09	TRC	Malicious Call Trace

The M2250 Attendant Console has a Shift key on the fixed feature key strip that provides access to an Options menu. This menu allows the setting of the display screen contrast, buzz tone, language, time and date format, and calls waiting options. Additional information on the Options menu can be found in the *M1250/2250 Attendant Console user guide*.

The Shift key also allows the M2250 console to have 20 Incoming Call Indicator keys in the regular mode, and 20 Trunk Group Busy keys and an additional ten flexible feature keys in the shift mode. An add-on module is not required on the M2250 console to provide the additional key functions.

Attendant Call Party Name Display (CPND) and the Enhanced Busy Lamp Field/Console Graphics Module capabilities may be equipped with the M2250 console. Please refer to the feature modules in this document for a complete description of these capabilities.

For additional information on Attendant Consoles and associated hardware, refer to the following Northern Telecom Publications:

- *M1250 and M2250 Attendant Consoles description* (553-2201-117)
- *Telephone and attendant console installation* (553-3001-215)

Operating parameters

Refer to the preceding Northern Telecom Publications.

Feature interactions

Refer to the preceding Northern Telecom Publications.

Feature packaging

Calling Party Name Display (CPND) package 95, includes Attendant CPND and requires Digit Display (DDSP) package 19.

M2250 Attendant Console (DCON) package 140, requires M2000 Digital Sets (DSET) package 88.

Feature implementation

LD 15 – Attendant Console related prompts and responses.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB LDN	Customer Data Block. Gate opener.
CUST	0	Customer number.
- LDN0	xxx...x	Listed Directory Number 0.
- LDA0	xx xx..., ALL	Attendant Consoles associated with LDN0 (see Note).
- LDN1	xxx...x	Listed Directory Number 1.
- LDA1	xx xx..., ALL	Attendant Consoles associated with LDN1 (see Note).
- LDN2	xxx...x	Listed Directory Number 2.
- LDA2	xx xx..., ALL	Attendant Consoles associated with LDN2 (see Note).

- LDN3	xxx...x	Listed Directory Number 3.
- LDA3	xx xx..., ALL	Attendant Consoles associated with LDN3 (see Note).
TYPE	NIT	Gate opener.
- NIT1	xxx...x	First Night Service DN.
- TIM1	hh mm	Hour and minute of first Night Service DN.
- NIT2	xxx...x	Second Night Service DN.
- TIM2	hh mm	Hour and minute for second Night Service DN.
- NIT3	xxx...x	Third Night Service DN.
- TIM3	hh mm	Hour and minute for third Night Service DN.
- NIT4	xxx...x	Fourth Night Service DN.
- TIM4	hh mm	Hour and minute for fourth Night Service DN.
TYPE	ATT	Gate opener.
ATDN	(0) xxx...x	Attendant DN.
- NCOS	(0)-99	Attendant Network Class of Service for all consoles.
TYPE	CAS	Gate opener.
- CAS	(NO), YES	Change Centralized Attendant Service options.
OPT	(IC1), IC2 (XTG), ITG (LOD), LOA (XDP), IDP (XLF), ILF (SYD), SYA	10 or 20 Incoming Call Indicators. Trunk Group Busy keys not equipped/equipped. (Deny) allow Lockout. Digit Display not equipped/equipped. Lamp Field Array not equipped/equipped. (Deny) allow Secrecy.
- ANAT	xxx x	Attendant Billing number.
- ANLD	xxx...x	ANI listed DN.
TYPE	ATT	Gate opener.
- LFTN	l s c u	TN of first Lamp Field Array.
- LFTN	l s c u	TN of second Lamp Field Array.

- LFFD	xxx...x	First DN of Lamp Field Array.
AATT	xxxx	AIOD attendant identifier.
TYPE	TIM	Gate opener.
- RTIM	xxxx yyyy zzzz	Recall timers. xxxx = slow answer (0-378). yyyy = Camp-On (0-510). zzzz = Call Waiting (0-510).
- ATIM	(0)-126	Attendant Alternative Answering timer.
ICI	xx yyy	Incoming Call Indicator key assignment. xx = key number. yyy = mnemonic (see Table 4). Note: Multiple responses can be entered for the same key. To remove an entry, enter xx NUL, then reenter the desired responses. To add an entry, enter the desired response. It will be added to any already existing response.
- AQTT	1-(30)-255	Attendant queue timing threshold in seconds.
TYPE	ATT	Gate opener.
- AODN	xxxx...x	Attendant overflow DN.
TYPE	PWD	Gate opener.
- ATAC	xxxx	Attendant Administration access code.
TYPE	ATT	Gate opener.
- CWUP	(NO), YES	Call Waiting queue update.
- CWCL	(0)-255, (0)-255	Call Waiting lower and upper thresholds for number of calls in queue.
- CWTM	(0)-511, (0)-511	Call Waiting lower and upper thresholds for time in queue.
- CWBZ	(NO), YES (NO), YES	Buzz when Call Waiting thresholds are exceeded. Buzz when first call enters queue.
- MATT	(NO), YES	Attendant Consoles used as Message Center.

- SPVC	0-63	Attendant number for supervisor console.
TYPE	AWU	Gate opener.
- AWU	(NO), YES, X	Enable Automatic Wake Up (X erases AWU information).
- ATRC	(NO), YES	Attendant Recall after failed AWU attempts.
Note: Enter one or more attendant numbers (1-63). Enter ALL to enable this listed DN on all attendants. Precede the attendant number with X to remove.		

LD 12 – Add an Attendant Console.

Prompt	Response	Description
REQ	NEW	Add a console.
TYPE	2250	M2250 console.
TN	c u	TN of Attendant Console.
CDEN	(DD), SD	Card density.
SETN	c u	Second TN (must be on same loop as primary TN of Attendant Console).
ANUM	1-63	Attendant number (1-63).
SSU	0-4095	System Speed Call user list number.
ICDR	(ICDD), ICDA	(Deny) allow internal call detail.
CPND	(CNDD), CNDA	(Deny) allow Call Party Name Display.
DNDI	(DNDD), DNDA	(Deny) allow dialed name display.
EBLF	(BLFD), BLFA	(Deny) allow enhanced busy lamp field.
AADN	xxx...x	Attendant Alternative Answering DN.
KEY	xx aaa	Key number and mnemonic for feature assignments (see Table 5).

Feature operation

Refer to the M2250 Attendant Console User Guide for specific operation procedures.

Attendant Incoming Call Indicators

Attendant Consoles can be equipped with up to 20 Incoming Call Indicator (ICI) key/lamp pairs to identify the type of calls being presented and the call status for each particular call type. The customer can specify which incoming call types are to be assigned a separate ICI key. Possible call types include, but are not limited to, the following:

- Trunk calls (such as FX, WATS, and TIE)
- Listed Directory Number (LDN) calls
- Dial zero calls
- Fully restricted dial zero calls
- Automatic Timed Reminder recalls
- Attendant Interpositional calls
- Attendant Intercept calls
- Call Forward Busy calls, and
- Call Forward No Answer calls.

Three lamp states are associated with each Incoming Call Indicator key:

- | | |
|--------------|---|
| Dark | There are no calls of this type waiting. |
| Steadily lit | One call of this type is waiting in queue. |
| Flashing | Two or more calls of this type are queued, or one call has been waiting longer than 20 seconds. |

Operating parameters

The ICI feature applies to Attendant Consoles only.

The number of ICI keys to be assigned (10 or 20) is defined in the Customer Data block. The default is ten.

No more than 20 ICI key/lamp pairs can be assigned to an Attendant Console. The assignment of call types to ICI key/lamp pairs is flexible. All Attendant Consoles in the customer group will have the same ICI key assignments.

Feature interactions

Attendant Call Selection Call Waiting

The ICI feature is used with the Attendant Call Selection and Call Waiting features to recognize, answer, and process incoming calls.

DPNSS1 Night Service

When a Night Service call is diverted to an attendant, the Incoming Call Indicator is the number of the incoming route. This is the same as for a NAS MCDN call routed to an attendant.

Feature packaging

The Attendant Incoming Call Indicators feature is included in base system software.

Feature implementation

LD 15 – Assign ICI keys for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(IC1), IC2	10 or 20 Incoming Call Indicators.
- ICI	0-19 CAx 0-19 CFB 0-19 CFN 0-19 DF0 0-19 DL0 0-19 IAT 0-19 INT 0-19 LCT 0-19 LD0-3 0-19 MWC 0-19 RLL 0-19 xxx	Station category number. x = category number 1 through 7. Call Forward Busy. Call Forward No Answer. Dial 0 fully restricted. Dial 0 (attendant). Inter-attendant call. Call intercept. Line Lockout Intercept. Listed Directory Number (0 through 3). Attendant Message Center. Recall. Route number.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Interpositional Transfer

Attendant Interpositional Transfer enables an attendant to call or transfer a call to another attendant in a multiple-console group, even when the destination Attendant Console is busy.

When transferring a call to another attendant whose console is idle, the interpositional call is presented immediately. If the called attendant is busy, the calling attendant hears a busy tone. The attendant then presses the Release key and the transferred call will be the next call presented to the called Attendant Console.

Operating parameters

Calls can be transferred to an Attendant Console in the Position Busy state; however, the called console does not receive any audible signal. A Call Waiting indication appears on the console display.

Feature interactions

Night Service Enhancements

The requeuing of interpositional calls is not allowed. Night Service enhancements do not apply to interpositional calls, which remain on the console until answered.

Feature packaging

Attendant Interpositional Transfer is included in base system software.

Feature implementation

LD 15 – Add/change an Interpositional Call Incoming Call Indicator (ICI) key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- ICI	0-19 IAT	Add an Inter-attendant Call ICI to all consoles.

Feature operation

To transfer a call to a busy attendant (Attendant Console), follow this step:

- The Attendant Console you have dialed is busy. Press **Rls**. Your call will be the next call presented to the busy attendant.

To transfer a call to an Attendant Console in Position Busy mode, follow this step:

- Dial the Interpositional access code (0) and the desired attendant position number. You receive a busy tone. Press **Rls**.

To answer a call transferred to an Attendant Console in Position Busy mode, follow these steps:

- 1** The Call Waiting indicator lights; there are no audible tones. Press the **Position Busy** key to take the console out of Position Busy mode.
- 2** The call is presented to the Loop key and you receive an audible tone. Press the **Loop** key.

Attendant Lockout

Attendant Lockout restricts the attendant from entering an established connection completed through and held on the console. Attendant Lockout does not come into effect until the call has been answered.

The attendant can reenter the call if the source party is a station telephone. Attendant Lockout occurs only if the source party is an external number (trunk), and the destination party is a telephone.

Operating parameters

Busy Verify and Barge-In allow the attendant to override the Attendant Lockout feature.

Feature interactions

Attendant Recall

If one of the stations activates Attendant Recall, the attendant is allowed to reenter the connection.

Feature packaging

Attendant Lockout is included in base system software.

Feature implementation

LD 15 – Allow/deny Lockout for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(LOD), LOA	(Deny) allow attendant lockout.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Overflow Position

Attendant Overflow Position (AOP) allows certain types of calls to be automatically rerouted to a specified idle Directory Number (AOP DN) when calls waiting to be answered have exceeded a defined threshold, or an attendant is in the Position Busy state, but the system is not in Night Service.

When a call that can be rerouted has been waiting longer than the customer-defined Attendant Queue Timing Threshold (0-255 seconds), it is rerouted to the AOP DN. Calls that can be rerouted to the AOP DN are trunk calls, internal calls and Call Forward Busy, or Call Forward No Answer calls directed to the attendant.

Attendant calls that cannot be rerouted are transfer calls, intercept calls, parked call recalls, automatic or manual recalls, and attendant interposition calls. These calls will not be answered until an attendant becomes available.

When the last Attendant Console is put into Position Busy or disabled, the system does not go into Night Service if an AOP DN is available. In this case, calls that can be rerouted will be forwarded to the AOP DN. Ineligible calls remain unanswered until the system is put in Night Service or one of the consoles deactivates Position Busy.

Operating parameters

An AOP DN can be a single-appearance, multiple-appearance single-call, or multiple-appearance multiple-call DN. If it is a Multiple Appearance DN, a Meridian 1 proprietary telephone can busy out the AOP DN for all appearances.

An analog (500/2500 type) telephone can have an AOP DN. It does not have the ability to busy out the AOP DN and continue to receive calls. If it is a requirement that the analog (500/2500 type) telephone have an AOP DN, the AOP DN must also appear on a Meridian 1 proprietary telephone to create a mix of telephones, which negates privacy.

In order to properly identify and greet attendant overflow calls, it is best to have the AOP DN appear on a Meridian 1 proprietary telephone's secondary DN.

Meridian 1 proprietary telephones specified as Attendant Overflow Positions can prevent calls from being rerouted by the Attendant Overflow feature. To prevent attendant overflow calls, press the Attendant Overflow Position Busy (AOP Busy) key/lamp pair on the telephone. Activating this key will busy out all appearances of the AOP for either Single Call Ringing or Multiple Call Ringing arrangements. Overflow calls will remain in the attendant queue. Normal incoming calls to the AOP telephone will not be affected.

The following requirements apply to the activation/deactivation of the AOP Busy key:

- A telephone with an AOP Busy key must have an appearance of the AOP DN in order for the key to work.
- Any AOP DN that has an AOP Busy key can activate or deactivate the AOP feature. If the AOP Busy key is activated at one appearance of the AOP DN, attendant calls are not rerouted to any appearance of the AOP DN.
- Activation or deactivation of the AOP Busy key does not affect any call already rerouted to the AOP DN.
- If all consoles are in Position Busy and the system is not in Night Service when an AOP Busy key is activated, the system goes into Night Service.
- If the system is in Night Service when the AOP Busy key is deactivated, the system remains in Night Service.

- Activation or deactivation of the AOP Busy key does not affect the Position Busy status of the Attendant Console. If all Attendant Consoles are in Position Busy and the AOP Busy key is activated, the system goes into Night Service.
- The status of the AOP Busy key remains unchanged through a system initialization but is deactivated if a system reload occurs.

The AOP feature package is not allowed on systems equipped with Centralized Attendant Service-Main (CASM) or Centralized Attendant Service-Remote (CASR) packages.

Each customer may have only one AOP DN. The AOP DN cannot be a private line DN, a trunk DN, or a SPRE code.

There are no special ringing cadences or lamp operations to indicate that an incoming call to the AOP DN is an Attendant Overflow Position call. It is recommended that the AOP DN be used only for Attendant Overflow Position calls enabling calls to be answered appropriately.

If the AOP DN is busy, calls remain in the attendant queue and are not rerouted through the Attendant Overflow Position feature until the DN is free to receive the next call.

Calls will not be rerouted to the Attendant Overflow Position DN when

- Calls are on an Integrated Services Digital Network (ISDN) or Electronic Switched Network (ESN) network.
- All appearances of the AOP DN are busy.
- The AOP DN is in the Call Forward All Calls mode.
- The call is an interposition call from an attendant.
- The call has been redirected to the attendant by the Call Transfer or Attendant Recall features.
- The call is an intercept call to the attendants.
- The system is in the Power Fail Transfer mode.
- All appearances of the AOP DN have the Make Set Busy feature activated.

- Any appearance of the AOP DN has activated Attendant Overflow Position Busy (AOP Busy).
- An analog (500/2500 type) telephone appearance of the AOP DN goes idle and a Call Waiting call is queued for the telephone. The Call Waiting call rings the telephone and AOP calls are not rerouted to the telephone.
- The AOP DN goes idle with a Camp-On call queued for the telephone. The Camp-On call rings the telephone and AOP calls are not rerouted to the telephone.
- The rerouting of the call violates the access restrictions or Class of Service restrictions on the AOP DN telephone. For example, if the AOP DN is FR2, an external Public Exchange network call will not be rerouted to the AOP DN because it is prohibited by the telephone access restrictions.
- The system is in Night Service.

Feature interactions

Attendant

The Calls Waiting indicator on the Attendant Console is updated when a call is rerouted to the AOP DN.

Attendant Overflow Position Busy

If the telephone with AOP DN has an Attendant Overflow Position Busy (AOP Busy) key activated, calls will not overflow to any appearance of the AOP DN.

Attendant Recall

An Attendant Overflow Position call answered at an AOP DN may be recalled to the attendant using the Attendant Recall capability (ARC key).

Automatic Call Distribution (ACD)

Externally marked trunks will overflow to an Automatic Call Distribution (ACD) DN. The ACD DN may only be an ACD agent configured as a virtual Voice Mail System agent (e.g. Meridian Mail).

Call Forward All Calls

If the telephone assigned an Attendant Overflow DN has activated the Call Forward All Calls feature, overflow calls are not rerouted to the telephone. If an analog (500/2500 type) telephone is forwarded, AOP is canceled.

Call Forward No Answer

A call rerouted through Attendant Overflow Position will Call Forward to the forwarding DN only if it is the Prime DN or a single appearance DN on that telephone.

Call Pickup

An Attendant Overflow Position Call presented to the AOP DN can be picked up by any station belonging to the same Call Pickup Group.

Conference

An Attendant Overflow Position call answered on an AOP DN may be conferenced with another DN.

Line Lockout

If a telephone with an AOP DN is in Line Lockout, it still receives AOP calls.

Make Set Busy

If a telephone that is the only idle AOP DN has MSB activated, calls will not overflow.

If the AOP DN is a multiple appearance DN, the MSB key should be added to all telephones with an AOP DN.

If MSB is activated in a Multiple Call Ringing arrangement, the telephone appears busy. All other appearances of the AOP DN will still receive calls. This allows the user to leave the telephone and prevent callers from overflowing and receiving ringback with no answer.

If the AOP DN is a Multiple Appearance, Single Call arrangement and MSB is activated, the AOP DN of that telephone will flash, but the telephone will not ring (the call can still be answered from that appearance).

Multiple Appearance DN

A multiple appearance, multiple call AOP DN allows as many overflow calls to be in progress as there are appearances of the DN. A multiple appearance, single call AOP DN allows only one overflow call at a time.

Night Service

A call rerouted through the Attendant Overflow Position feature is not redirected to the Night DN if the system is subsequently put into Night Service. When all Attendant Consoles are in Position Busy, the system will not go into Night Service until the AOP Busy key is activated.

Deactivating the AOP Busy key after the system has been placed in Night Service does not affect the Night Service feature.

Night Service Enhancements

If a call with a ringing party on the destination side is presented at the last-active Attendant Console, and there is an active Attendant Overflow Position, the ringing destination will be disconnected when the call is requested. Likewise, if the call is a Call Waiting recall, Call Waiting will be canceled.

Night Service Enhancements/Network Attendant Service (NAS)

Attendant Overflow Position is mutually exclusive with NAS. The routing configuration for NAS will apply during Night Service. External calls and recalls may be queued to a remote Night DN, if defined. Internal calls and internal recalls queued during Day Service will be dropped, if the Night DN has been defined on a remote node.

Recall to Same Attendant

Recalls and inter-attendant calls are not routed to the Attendant Overflow Position.

Traffic Measurement

Traffic measurements are provided for the Attendant Overflow feature in Traffic Report TFC005. A count of the number of attendant calls rerouted through the feature is printed.

Automatic Timed Recall

After an attendant call has been rerouted using the AOP feature, there is no automatic timed recall to the attendant or any other DN.

Ring Again

If Ring Again is activated against the AOP DN, notification is given to the originator when the telephone becomes idle. An AOP call, however, takes precedence over Ring Again notification on the AOP DN when the AOP DN becomes free.

Feature packaging

Attendant Overflow Position (AOP) package 56, has no feature package dependencies. Attendant Overflow Position and Centralized Attendant Service are, however, mutually exclusive.

Feature implementation

LD 15 – Assign/change an Attendant Overflow Position DN and queue threshold timing.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- AQTT	0-(30)-255	Attendant queue timing threshold (AQTT).
- AODN	xxx...x	DN where calls are to be overflowed when they have been in queue the time specified for AQTT.

LD 11 – Add/change an AOP DN and AOP Busy key.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.

KEY	xx yyy...y	Attendant Overflow Position DN. xx = key number. yyy...y = DN.
KEY	xx OVB	Attendant Overflow Position Busy key.

LD 10 – Add/change an Attendant Overflow Position DN on an Analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DN	yyy...y	Attendant Overflow Position DN.

Feature operation

Attendant Overflow Position calls will be rerouted to all appearances of the AOP DN as long as the following conditions are met:

- The system is not in Night Service.
- The Attendant Overflow key (any AOP DN appearance) is not activated.
- At least one appearance of the AOP DN is on a telephone that does not have Make Set Busy activated.

To prevent attendant overflow calls from being rerouted to the AOP DN, do any of the following:

- Activate the Attendant Overflow Position Busy key.
- Activate the Make Set Busy key on all telephones with an appearance of the AOP DN.
- Place the system in Night Service.

To prevent attendant overflow calls from being rerouted to a single telephone with an appearance of the AOP DN (but not others):

- Activate Make Set Busy, or
- Activate Call Forward All Calls (analog [500/2500 type] telephone).

Attendant Position Busy

If multiple consoles are defined for a customer, an attendant can remove a console from service by pressing the Position Busy key. Incoming calls are then directed to other consoles in the customer group.

Operating parameters

Position Busy applies to Attendant Consoles only.

Feature interactions

Attendant Administration

If a console in the Attendant Administration mode is idle for more than 20 minutes, it automatically reverts to Position Busy. If the Meridian 1 Option 11C Compact system is initialized or reloaded while the console is in Attendant Administration mode, Attendant Administration is aborted and the console is placed in Position Busy.

Night Service

When the last console operator activates the Position Busy key or the Night key, Night Service is put into effect. Incoming calls receive the customer-specified night treatment.

Night Service Enhancements

Any call that has been presented to the Attendant Overflow Position cannot be removed from the console and queued by pressing the Make Set Busy (MSB) key. The call will be removed only if the Attendant Forward No Answer feature is active and the Attendant Forward No Answer Timer has timed out. In this case, the call is queued and the Attendant Overflow Position is idled.

Recall to Same Attendant

If an Attendant Console is in maintenance or Position Busy when a Recall to Same Attendant call is recalled to it, the recall is presented to the first available idle attendant. If an attendant goes into Position Busy with a Return to Same Attendant call in Call Waiting, the waiting call is presented to the first available attendant.

Series Call

If the attendant activates Position Busy while a Series Call is active, the recall occurs to the next available attendant.

Supervisory Console

Activation of the Position Busy key on a Supervisory console puts the console in the supervisory mode.

Feature packaging

Attendant Position Busy is included in base system software.

Feature implementation

No change to existing configuration is required for the Attendant Position Busy feature.

Feature operation

In a multi-console environment, press the **Position Busy** key on an Attendant Console to remove it from service.

Attendant Recall

Attendant Recall allows a user to call the attendant directly during an established call by pressing a single key. A three-way connection is established among the user, the attendant, and the third party.

To activate this feature, a separate Attendant Recall key/lamp pair must be equipped on Meridian 1 proprietary telephones. A softkey must be programmed on the M3000 Touchphone for this feature.

On single-line telephones, a user can recall the attendant during an established call by flashing the switchhook. Attendant Recall is automatic if a Transfer Denied Class of Service (XFD) is specified for the telephone. If a Transfer Allowed Class of Service (XFA) is specified, the user hears a special dial tone following the switchhook flash, and then dials zero (0) to recall the attendant. After a switchhook flash has been used to recall the attendant, it is not possible to return to a two-party connection before the attendant answers.

Operating parameters

In order for the Overflow Position Busy (OVb) key to work, the telephone must have an AOP DN configured.

Feature interactions

Attendant

After the attendant and the two parties have been connected, the attendant can use the Attendant Splitting feature to communicate separately with either party.

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the Attendant Recall (ARC) key is ignored if pressed.

Directory Number Delayed Ringing

If a dialed set has the Directory Number Delayed Ringing (DNDR) defined, and an attendant re-extends a call without releasing it, the DNDR timing is not reset. If the value of the recall timer is less than that of the DNDR timer, the call is recalled to the attendant before audible notification begins.

Multi-Party Operations

Users of analog (500/2500) telephones can perform an attendant recall during a two-party connection by performing a switchhook flash and then dialing the attendant DN.

Ring Again on No Answer

A set that is recalling the attendant cannot apply Ring Again on No Answer.

Feature packaging

Attendant Recall is included in base X27 system software.

Feature implementation

LD 15 – Add/change a Recall Incoming Call Indicator (ICI) key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- ICI	xx RLL	Add a Recall ICI to all consoles.

LD 10 – Implement Attendant Recall for Analog (500/2500) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow call transfer, which allows automatic Attendant Recall.

LD 11 – Add/change an Attendant Recall key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx ARC	Add an Attendant Recall key (the M3000 must use key 33). xx = key number.

Feature operation

To contact an attendant during a call (BCS telephone), follow these steps:

- 1 Press **Att Recall**.
- 2 Stay on the line until the attendant answers.
- 3 When you hang up, the other party remains connected to the attendant.

To contact an attendant during a call (analog [500/2500 type] telephone with Transfer Allowed Class of Service), follow these steps:

- 1** Flash the switchhook (you hear a special dial tone).
- 2** Dial zero (0).
- 3** When you hang up, the other party remains connected to the attendant.

To contact an attendant during a call (analog [500/2500 type] telephone with Transfer Denied Class of Service), follow these steps:

- 1** Flash the switchhook (the attendant is automatically dialed).
- 2** When you hang up, the other party remains connected to the attendant.

Attendant Secrecy

Attendant Secrecy automatically prevents a voice connection between the source and destination parties of a call being extended by an attendant, until the attendant connects the two parties. This allows the attendant to converse privately with the destination party before completing the connection. Attendant Secrecy is allowed or denied on a customer basis.

Operating parameters

Attendant Secrecy is available on Attendant Consoles only.

Feature interactions

Attendant Recall

Attendant Secrecy does not apply on an attendant recall or when the attendant reenters a call held on a Loop key. The Exclude Source and Destination keys are used in these cases.

Feature packaging

Attendant Secrecy is included in base system software.

Feature implementation

LD 15 – Allow/deny Attendant Secrecy for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(SYD), SYA	(Deny) allow Attendant Secrecy.

Feature operation

No specific operating procedures are required to use this feature.

Attendant Splitting

Attendant Splitting allows the attendant to talk privately to the source or destination side of an existing connection on the console. The Exclude Source (EXCL SRC) key allows the attendant to speak privately with the destination (called) party. The Exclude Destination (EXCL DEST) key allows the attendant to speak privately with the source (calling) party.

Operating parameters

This feature is active only while the attendant is involved in the call.

Attendant Splitting applies to Attendant Consoles only.

Feature interactions

There are no interactions with other features.

Feature packaging

Attendant Splitting is included in base system software.

Feature implementation

No change to existing configuration is required for the Attendant Splitting feature.

Feature operation

To speak privately to the source party:

- 1 Press **EXCL DEST**.
- 2 To connect yourself, the caller, and the called party, press the **lpk** key.
- 3 To end your connection in the call, press **RLs**.

To speak privately to the destination party:

- 1 Press **EXCL SCR**.
- 2 To connect yourself, the caller, and the called party, press the **lpk** key.
- 3 To end your connection in the call, press **Rls**.

Attendant Trunk Group Busy Indication

The attendant can control user access to a trunk route by pressing the appropriate Trunk Group Busy key. Station users with a Trunk Group Access Restriction (TGAR) from 0 to 7 accessing the route that has been busied out will be automatically intercepted to the attendant. Station users with a TGAR of 8 to 31 will not be affected and can dial out in the normal manner.

The QCW Attendant Console has up to 10 Trunk Group Busy key/lamp pairs assigned. If an add-on module is equipped on the console, up to 16 Trunk Group Busy key/lamp pairs can be assigned.

The Shift key allows the M1250 Attendant Console to have 16 Trunk Group Busy keys. The M2250 Attendant Console can have up to 20 Trunk Group Busy keys.

Trunk Group Busy Indication is allowed or denied on a customer basis. If allowed, the lamps associated with the Trunk Group Busy keys will provide the following visual indication of the status of the trunks within the route:

Off	Some of trunks in the route are idle.
Flashing	All of the trunks in the route are busy.
Steadily lit	The attendant has taken control of the route.

Trunk Routes 0 to 9 are automatically assigned to keys 0 to 9 on the console. If an add-on module is equipped on a QCW console and the IC2 option specified, Trunk Group Busy key/lamp pairs will be automatically assigned to the add-on module. Trunk Routes 0 to 15 are assigned to keys 0 to 7 and 10 to 17.

On the M1250, Trunk Routes 0 to 15 are assigned 0 to 7 and 10 to 17 when the Shift key is activated. On the M2250, Trunk Routes are assigned to keys 0 to 9 and 10 to 19 when the Shift key is activated.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Attendant Trunk Route Busy Indication is included in base system software.

Feature implementation

LD 15 – Allow Trunk Group Busy keys.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
- OPT	(IC1), IC2	Allow Trunk Group Busy keys, where: IC1 = 10. IC2 = 16 for M1250, or 20 for M2250.
- OPT	(XTG), ITG	(Exclude) include Trunk Group Busy Indicator keys.

Feature operation

To restrict access to a trunk route (make it busy to users):

- Press the **Trunk Group Busy** key associated with the trunk.
The indicator goes on and remains steady.

To allow access to the trunk route:

- Press the **Trunk Group Busy** key associated with the trunk.
The indicator goes off.

Audible Reminder of Held Calls

Occasionally, a user may forget that a call has been placed on hold. Audible Reminder of Held Calls (ARHC) allows an audible tone to operate as a reminder of a held call. It provides for a ring on analog (500/2500) telephones and a tone on Meridian 1 proprietary telephones. The cadence and the duration between cadences are programmed per customer. This ability allows the user to differentiate between the cadence for Audible Reminder of Held Calls (ARHC) and the cadences of other existing features.

The station user will hear a ring or tone, which is repeated every 2 to 120 seconds depending on how this feature is programmed, as a reminder that a call is being held. A single-line telephone user must hang up after putting a call on Permanent Hold in order to start the timer.

Operating parameters

For analog (500/2500) telephones, Audible Reminder of Held Calls (ARHC) applies only to permanent hold. When using ARHC on a Meridian 1 proprietary telephone, the station user must not be originating, receiving, or active on another call.

Audible Reminder of Held Calls is supported on Multiple Appearance DNs; however, only the appearance initiating Hold will receive the reminder ring.

This feature does not operate on Attendant Consoles.

Feature interactions

Permanent Hold

Permanent Hold must be enabled in LD 10 for the single-line telephone; however, the ARHC timer takes precedence over the Permanent Hold timer.

Feature packaging

Audible Reminder of Held Calls is included in base system software.

Feature implementation

LD 15 – Set duration between reminder cadences for Audible Reminder of Held Calls.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB TIM	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
- DBRC	2-(60)-120	Duration between reminder cadences for Audible Reminder of Held Call. An odd numbered entry is rounded up to the next even number.

LD 10 – Allow/deny Audible Reminder of Held Calls for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500, 2500	Telephone type.
TN	I s c u	Terminal Number.
CLS	(XFD), XFA (ARHD), ARHA	(Deny) allow call transfer. (Deny) allow Audible Reminder of Held Calls.
FTR	PHD	Permanent Hold allowed.

LD 11 – Allow/deny Audible Reminder of Held Calls for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(ARHD), ARHA	(Deny) allow Audible Reminder of Held Calls.

Feature operation

No specific operating procedures are required to use this feature.

Authorization Code Security Enhancement

The Authorization Code Security Enhancement feature enables a user to temporarily override the access restrictions assigned to a station or trunk because of their assigned Network Class of Service (NCOS), Class of Service (COS), and Trunk Group Access Restrictions (TGAR) codes. If a user requires access to system facilities in addition to that allowed on the set, the Authcode feature can be used to provide them.

The Authorization Code (Authcode) Security Enhancement feature alerts the technician when an invalid Authcode is entered by generating an Authcode Alarm. The Alarm indicates to the technician that a valid user has inadvertently dialed the wrong digits or some unauthorized person may be trying to use an Authcode to illegally access the switch.

The Authcode Alarm is generated upon detection of violation of all Authcode related features (i.e., Basic, Network, and Station Specific Authorization code), except for calls originated by the attendant.

A new class of alarm has been added (Security Administration – SECA) to distinguish security violations from other types of system messages. The message SECA001 will be printed on the TTY indicating that an invalid Authorization Code has been dialed. The following is the format of the SECA001 message:

- Originated station or trunk Terminal Number
- Calling Line Identification (CLID) when the call is originated from an Integrated Services Digital Network (ISDN) trunk, and
- The Authorization Code entered.

Operating parameters

This feature is enabled through the Authcode data block in LD 88.

The Authcode Alarm feature does not apply to calls originated by an attendant.

All existing operating parameters relating to Authorization Code usage apply to this feature.

All existing operating parameters relating to Fault Management apply to this feature.

For security reasons, the SECA001 alarm should not be configured in the Exception Filter table.

Feature interactions

Direct Private Network Access with Authorization Code Retry

Only when an Authcode retry fails will a SECA message be printed to the configured MTC, FIL console and/or the configured History File.

Feature packaging

Authorization Code Security Enhancement is included in base system software.

The following software packages are optional, but may be needed depending upon the application:

- Alarm Filtering (ALRM_FILTER) package 243
- Basic Authorization Code (BAUT) package 25
- Basic Alternate Route Selection (BARS) package 57
- Network Alternate Route Selection (NARS) package 58
- Coordinated Dialing Plan (CDP) package 59
- Direct Private Network Access (DPNA) package 250
- Direct Inward System Access (DISA) package 22
- Network Class of Service (NCOS) package 32

- Network Authorization Code (NAUT) package 63
- Station Specific Authcodes (SSAU) package 229
- Recorded Announcement (RAN) package 7
- Scheduled Access Restrictions (SAR) package 162, and
- System Speed Call (SSC) package 34, or Network Speed Call (NSC) package 39.

Feature implementation

LD 88 – Configure the Authcode Alarm for each customer:

Prompt	Response	Description
REQ	NEW, CHG	Configure or change.
TYPE	AUB	Authcode Data Block.
CUST	0	Customer number.
SPWD	xxx	Secure data password.
ALEN	1-14	Number of digits in Authcode.
ACDR	(NO), YES	(Do not) activate CDR for authcodes.
AUTHCOD_ALARM	(OFF), ON	(Disable) enable Authcode Alarm.
RANR	0-511	RAN route number for Authcode Last prompt.

LD 17 – Configure the Alarm Filter.

Prompt	Response	Description
REQ	CHG	Change configuration.
TYPE	ALARM	Change Alarm Filters. Gate opener.
- FMT_OUTPUT	ON	Enables formatting for the alarm/exception output. <CR> retains current formatting status.
- AF_STATUS	ON	Alarm and Exception filtering.

- SUPPRESS	0-(5)-127	Alarm occurrence threshold (prior to suppressing). Determines number of times an alarm may occur before it is no longer output. The entry 0 indicates that all alarm occurrences are output (no suppression).
- ESCALATE	0-(2)-127	Alarm occurrence threshold (prior to escalating). Determines the number of occurrences of alarm before it is escalated to critical severity over a 24 hour period. When the Interval Time has elapsed, the Interval Alarm counter is cleared. This is applicable only to Major alarms. The entry 0 occurrence disables alarm escalation.
- A_FILTER	NEW, CHG, OUT	Add, Change, or Remove an Alarm Filter entry.
- TRIGGER	SECA001	Alarm report consisting of the mnemonic "SECA" and the numerics "001" must be entered for the Authcode security alarm.
- SEVERITY	aaaa	Alarm severity of a particular alarm entry, where: NONE = no rating and default status CRITICAL = System operation is in jeopardy MAJOR = Serious condition, system is operational MINOR = Error condition detected, system operation not affected <CR> = current value retained
...		

Feature operation

No specific operating procedures are required to use this feature.

Autodial

Autodial (ADL) allows users to dial a number by pressing a single key. Meridian 1 proprietary telephones, and Attendant Consoles can be assigned an Autodial key/lamp pair.

The number stored against the Autodial key can be programmed or changed at any time. The maximum number of digits the user is allowed to program can be 4, 8, 12, 16, 20, or 23 digits. Depending on the length allowed, the Autodial number can be another DN or an access code plus further digits. The asterisk (*) can be used as a pause for outpulsing (i.e., for outgoing trunks) when required. When the Autodial key is pressed, the stored number is processed as if it had been dialed manually.

Speed Call/Autodial with Authorization Code

This enhancement allows an Authorization Code to be included in a Speed Call entry or an Autodial key. Entries can contain any one of the following combinations:

- SPRE code + digit 6 + authorization code
- SPRE code + digit 6 + authorization code + #, or
- SPRE code + digit 6 + authorization code + # + Electronic Switched Network (ESN) access code and dialed number.

Autodial Flexible Feature Codes

A user may define an Autodial DN that is automatically dialed by the Meridian 1 Option 11C Compact system in one of two ways:

- In LD 10, while defining the Autodial DN length under the feature (FTR) ADL.

- Using the Autodial Activate (ATDA) FFC, defined in LD 57. This method requires that the length of the Autodial must first be defined in LD 10. The user goes off hook and dials the ATDA FFC. Upon receiving dial tone, the user enters the desired Autodial DN, and then goes on hook.

If, after going off hook, no digits are entered within a customer-defined period of time (defined in LD 15) under ADLD (Autodial Delay), the Autodial DN is automatically dialed.

Note: In LD 10, the user may define a partial DN as an Autodial DN. The user may enter the remaining digits while making a call – the user goes off hook, waits for the dial tone to time out, and then enters the remaining digits of the desired DN. The call is then dialed out.

To deactivate Autodial, the user dials either the Autodial Deactivate (ATDD) FFC (defined in LD 57) or the general Deactivate (DEAF) FFC (also defined in LD 57).

Operating parameters

Autodial must be assigned to a key/lamp pair; as a result, it is not available on analog (500/2500 type) type telephones.

An attendant can enter an Authorization Code for other callers provided that the system is equipped with the Network Authorization Code (NAUT) package.

On Attendant Consoles, pressing the Autodial key, then pressing a Speed Call key is not allowed.

Authorization Code Conditionally Last is not supported by the Autodial feature.

An octothorpe (#) is required as a delimiter after the Authorization Code if an ESN access code and dialed number is stored as part of the Autodial key. If the octothorpe is not entered, the user receives fast busy tone. The octothorpe is not stored in the CDR record.

The Autodial feature allows a maximum of 23 digits including the SPRE code, the digit 6, the Authorization Code, the delimiter (#), the ESN access code, and the dialed number.

If the system initializes before the Authorization Code is recorded by CDR, the record will be lost.

An SL-1 digit display telephone can display up to 16 digits. Additional digits cause the digits to scroll off the display.

Because it has a Directory, the M3000 Touchphone does not support the Autodial feature.

On digit display telephones, Authorization Codes cannot be blocked from being displayed.

The Authorization Code is not validated during the storing process. An invalid Authorization Code is detected when the Autodial key is activated.

Network Automatic Route Selection (NARS) and Basic Alternate Route Selection (BARS) does not support the asterisk (*) as a pause when dialing an autodial number.

Feature interactions

AC15 Recall: Transfer from Meridian 1

Autodial is supported with the AC15 Recall: Transfer from Meridian 1 Option 11C Compact on the first transfer, provided that the digits are outpulsed on the trunk after the End-to-End Signaling Delay timer expires. If the far end is not ready, the call will fail because no dial tone detection is performed by the Meridian 1 Option 11C Compact.

Additional transfers are supported if the stored digits are outpulsed without any treatment. For example, a route is seized and the route access code is outpulsed to the far end and interpreted as a Directory Number. No dial tone detector or timer is started, so the digits are outpulsed immediately without checking the state at the far end.

Automatic Redial (ARDL)

ARDL can be activated on a dialed number using the Autodial (ADL) key.

Call Forward and Busy Status

Party A can use the BFS key as an Autodial key to dial party B.

Calling Party Privacy

An outgoing trunk call initiated by pressing the Autodial key will carry the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored against the Autodial key. The CPP code is counted against the maximum number of digits (currently 23) stored against the Autodial key.

A user can also store the CPP code against the Autodial key. An outgoing CPP call can be initiated by pressing the Autodial key, followed by manually dialing the digits.

An outgoing CPP call can also be initiated by dialing the CPP code, followed by pressing the Autodial key against which the normal dialing sequence of digits have been stored.

Direct Private Network Access

If the Autodial feature is programmed with a valid Authcode for Authcode Last followed by an octothorpe “#”, the existing Authcode Last operation will reject the Authcode as an invalid Authcode. If Authcode Last Retry is defined, the caller will be reprompted for the Authcode.

Enhanced Flexible Feature Codes - Busy Number Redial

Activation of Busy Number Redial (BNR) changes the activation of Autodial. The DN that is autodialed becomes the DN that was busy. When the BNR activation timer expires or the busy DN is redialed when it is idle, the autodial capability is deactivated, but the number saved is not cleared. If Autodial is then activated without entering a DN, the number used is the formerly busy DN.

Activation of Autodial when BNR is active deactivates BNR.

Flexible Hot Line and/or Enhanced Hot Line

Flexible Hot Line and/or Enhanced Hot Line are mutually exclusive with the Autodial feature.

Last Number Redial

A number dialed using Autodial will become the Last Number Redial number on all telephones, except the M2317 and M3000.

Speed Call Delimiter

An octothorpe (#) is required as a delimiter following an authorization code if an Electronic Switched Network (ESN) and dialed number are stored as part of the autodial key. If an octothorpe (#) is not entered, then the user receives a fast busy tone. If the MSCD = YES, then the end of dial delimiter must be programmed to something other than an octothorpe (#) in LD 15.

Feature packaging

Optional Features (OPTF) package 1 includes Autodial and has no feature package dependencies.

To implement Autodial with Authorization Code, the following packages are required:

- Charge Account/Authorization Code Base (CAB) package 24, or
Basic Authorization Code (BAUT) package 25, or
Network Authorization Code (NAUT) package 63.
- Optional Features (OPTF) package 1, or
System Speed Call (SSC) package 34, or
Network Speed Call (NSC) package 39.

The following packages are required for Autodial FFCs:

- Flexible Feature Codes (FFC) package number 139, and
- Background Terminal Facility (BGD) package 99.

Feature implementation

LD 11 – Assign Autodial key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx ADL yy zzz...z	xx = assigned key number. yy = the length of the Autodial number (4, 8, 12, 16, 20, or 23 digits; default is 16). zzz...z = the digits to be dialed automatically (optional).

LD 12 – Assign Autodial key for M1250 and M2250 Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx ADL zzz...z	xx = assigned key number. zzz...z = the digits to be dialed automatically (optional).

LD 15 – Define Autodial Delay in Customer Data Block.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB FCC	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
- ADLD	(0)-20	Autodial Delay, in seconds. If 0, then FCC Autodial for 500/2500 telephones is disabled. Only prompted if FCC package (139) is equipped. Inputs are rounded up to the next valid increment of two (i.e., input of 11 would be rounded up to 12).

Feature operation

To program Autodial, follow these steps:

- 1** While the handset is on hook, press the **Autodial** key.
The associated lamp flashes.
- 2** Dial the desired number and press the **Autodial** key again.
The lamp goes dark.

To use Autodial, follow these steps:

- 1** Lift the handset off hook, or press the **Handsfree** key if allowed.
- 2** Press the **Autodial** key.
The call is dialed.

The following instructions are for using the Autodial FFCs:

- Activate and program
The user must dial the Autodial Activate (ATDA) FFC followed by the number to be stored as the Autodial number.
- Activate only
The user must dial the Autodial Activate (ATDA) FFC.

- Deactivate
The user must dial the Autodial Deactivate (ATDD) FFC or the Deactivate (DEAF) FFC.
- Use prerequisites
To use Autodial, the Autodial Activate (ATDA) FFC must have been entered previously and an Autodial number must be stored.
- Use
The user goes off hook, if no digits are dialed within the customer defined time period (ADLD), the system then dials the number stored as the Autodial number.

Autodial Tandem Transfer

Prior to the introduction of this feature, in order to access the Central Office (CO) transfer feature after a Centrex/Trunk Hook Flash on an established trunk call, the user had to manually dial the digits. This procedure permits call completion, but is slow and requires knowledge of the full telephone number. The Autodial Tandem Transfer (ATX) feature allows the Autodial key to be used after a switchhook flash to outpulse Dual-tone Multifrequency (DTMF) digits while a call is in an established state.

One application for the Autodial Tandem Transfer feature is for use in a 911 environment to transfer an emergency call from a Public Safety Answering Point (PSAP) to the most appropriate participating emergency agency. Manually dialing the digits by the PSAP in order to transfer the 911 call to another PSAP can take time and is subject to misdialing. To avoid this, the ADL key programmed with the special station number can be used to send digits to the tandem/Centrex office to transfer the call. Using the ATX feature, a PSAP can transfer the incoming call by pressing the Trunk Hook Flash (THF) key, waiting for a broken dial tone, and then pressing the ADL key.

Operating parameters

The Centrex/Trunk Switchhook feature only supports voice calls. Subsequently, the ATX feature which uses Centrex/Trunk Hook Flash does not support data calls.

Centrex/Trunk Hook Flash cannot be activated during Conference and No Hold Conference calls. Subsequently, the ATX feature which uses Centrex/Trunk Hook Flash does not support them either. Only two-party calls are supported by the ATX feature.

The following trunk types are supported by the ATX feature: AID, CAA, CAM, COT, TIE (supports ATX, not Trunk Hook Flash), CSA, DID, DOD, WATS, DTI, and DTI2.

The ATX feature is not supported on Meridian 1 proprietary sets, Attendant Consoles, and BRI sets.

Release 5 End-to-end signaling (EES) is not supported for this feature (only Release 19 Improved End-to-end signaling is supported).

Single CPU machines are not recommended for 911 applications. Meridian 911 hardware may be required for 911 applications.

Feature interactions

Automatic Dial

The ADL key is used by the Automatic Dial feature to send DN digits out during the dialing stage. Some of the digits, such as “#” and “*”, have special meanings. The “*” causes a three-second pause, while the “#” means end of dialing.

In the ATX feature when the ADL key is used during an established call, the DTMF tones corresponding to the digits programmed in the ADL key are sent out (using End-to-end Signaling to send the digit out). Therefore, the DTMF tones corresponding to “#” and “*” are outpulsed.

Call Detail Recording (CDR) Records

No modifications to this feature are required for the ATX feature.

For 911 applications most of the calls are incoming calls. Prior to Release 20, CDR records did not capture End-to-end Signaling (EES) digits for incoming calls, even though the ECDR option was set to YES. For Release 20, the outgoing End-to-end Signaling digits are captured for incoming 911 calls on the incoming CDR records. This only applies to 911 trunks.

Conference

The ATX feature is blocked during Conference and No Hold Conference calls.

Digit Display

Digit Display allows the automatic display of information relevant to normal call processing if the sets have display capability and the Class of Service is ADD or DDS. When the THF key is pressed the display gets cleared, and pressing the ADL key causes the ADL digits to be displayed. However, no ADL digits will be displayed if no Tone and Digit Switch (TDS)/XCT is available to generate the Dual-tone Multifrequency (DTMF) tones for the ADL digits.

End-to-end Signaling

Release 19 Improved End-to-end Signaling is used to send the pre-programmed ADL digits to the CO. With the ATX feature, a 911 Agent can use the ADL key, or manually dialed digits, or a combination of both to dial the third party's number. It is recommended to set the DTMF prompt to NO (Release. 19 EES – LD 15) to get uniform feed back tone (Release. 19 single feed back tone) when using the ADL key along with manual dialing.

Enhanced Malicious Call Trace

Enhanced Malicious Call Trace implements the ability to send a call trace request to the CO and provides the possibility to record the call using a recorder. This feature also uses the Centrex/Trunk Switchhook Flash feature; the same enhancement applies to the ATX feature.

Last Number Redial

Normally, when the ADL key is pressed during the dialing stage, the ADL number will replace the Last Number Redial number. In the ATX feature, however, when the ADL key is used during the established stage, the ADL digits will not substitute the Last Number Redial number.

Speed Call Key

The Speed Call key cannot be used after THF or during an established call to send digits out to the far site; it can only be used during the dialing stage.

Feature packaging

Autodial Tandem Transfer (ATX) is package 258.

To activate this feature the following packages are also required: End-to-end Signaling (EES) package 10; and Trunk Hook Flash (THF) package 157.

Implementation

LD 11 – Define THF and ADL keys for Meridian 1 proprietary sets.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type where aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	...	
KEY	xx THF yy ADL ll zz..zz	Key xx is configured for the Centrex/Trunk Switchhook Flash feature. Key yy is configured for the Autodial key; ll is the length of the autodial number (the default is 16). zz..zz are the digits to be dialed automatically.

LD 14 – Define THF Class of Service THFA for the trunk.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	aaa	Trunk type.
TN	c u	Terminal Number.
CLS	(THFD), THFA	The THF feature is (denied) allowed; the default is THFD.

LD 15 – Define feedback tone when ADL digits are sent out.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	CDB CDR	Customer Data Block. Gate opener.
- CUST	0	Customer number.
...		
CDR	YES	
...		
- ECDR	YES	Include EES digits in CDR record. This will include ADL digits that are outpulsed during an established call.
...		All-digital connection prefix.
- EEST	YES, NO	End-to-end Signaling feedback tone to originating party.
- DTMF	YES, NO	Type of feedback tone. DTMF = NO Single feedback tone (Rls. 19 EES). DTMF = YES DTMF feedback tone (Rls. 5 EES). Note: When EEST = YES, DTMF = YES, and the ADL key is pressed, single feedback tone is provided for the user.

LD 16 – Set the duration for Centrex/Trunk Switchhook Flash.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route data block.
CUST	0	Customer number.
ROUT	0-511	Route number.
TKYP	aaa	Trunk type.
...		
CNTL	(NO), YES	Change control or timers.
- TIMR	FLH <space> 60-(510)-1536	Flash timer in msec. The range of the Centrex switchhook flash timer is 60-(510)-1536. The FLH value is rounded down to the nearest 10 msec. tick. If the value entered is 128 or 129, then it is set to 130 msec. <i>Software controlled flash</i> 60-127 msec. Digit 1 will be sent. 128-1536 msec. software controlled switchhook flash. <i>Firmware controlled flash</i> The user can enter any value from 60 to 1536 msec. 90 msec. is the hardcoded firmware flash for an XFCOT pack; the technician should enter 90 msec. Note: the FWTM prompt must be set to YES for the trunk associated with this route in LD 14, if firmware timing is to be used.

Feature operation

Normal operation

- 1 An incoming call from a CO terminates to a Meridian 1 set.
- 2 The set user presses the **THF** key, waits for a broken dial tone from the CO, and then presses the **ADL** key to send a string of digits to the CO (the ADL has been pre-programmed with the number).
- 3 The CO will transfer the call to the third party dialed by set A.

Meridian 911 operation

- 1** An incoming 911 trunk call to a tandem/Centrex office terminates to a PSAP on Meridian 1.
- 2** The PSAP call taker presses the **THF** key, waits for a broken dial tone, and then presses the **ADL** key to call the proper number (such as a police station).
- 3** The PSAP call taker then disconnects to complete the transfer.

Automatic Answerback

Automatic Answerback (AAB), when assigned to a Meridian 1 proprietary telephone, allows any incoming call to a single appearance Prime Directory Number (PDN) to be answered automatically. An incoming call will ring one time, then the Meridian 1 Option 11C Compact system will turn on Handsfree and establish a speech path. When either party hangs up, the call is automatically disconnected.

Automatic Answerback can be permanently assigned either as a Class of Service, or with an Automatic Answerback key/lamp pair assigned to allow activation/deactivation of the feature. If privacy is desired during a call, handset operation is allowed.

Operating parameters

This feature is available on SL-1, M1109, M2112, M2317, M2616, and M3000 telephones.

SL-1 telephones must be equipped with QUS1C Logic Handsfree unit connected by the QKK3 Handsfree interface kit. M1109 telephones require a QKK8 Handsfree interface kit.

Incoming ground start trunks must provide Answer Supervision. If not, the call is connected to the attendant who provides the necessary supervision.

The Prime DN (PDN) must be a single appearance DN.

Calls presented to DNs other than the PDN, or calls presented to the PDN when active on another DN, will not receive Automatic Answerback treatment.

Automatic Answerback can be provided as a Class of Service or on a key/lamp pair. You cannot assign both in service change.

Feature interactions

Message Center

If a telephone is in the Automatic Answerback mode, incoming calls are not routed to the Message Center.

Feature packaging

Automatic Answerback (AAB) package 47 has no feature package dependencies.

Feature implementation

LD 11 – Assign Automatic Answerback as a Class of Service to M2006, M2008, M2216, or M2616 telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(AAD), AAA (HFD), HFA	(Deny) allow Automatic Answerback for all calls. AAA cannot be entered if the AAK key is already programmed. (Deny) Allow Handsfree. Note: HFA is allowed for the M2216 only.

LD 11 – Assign Automatic Answerback key to M2006, M2008, M2216, or M2616 telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(HFD), HFA	(Deny) allow Handsfree. Note: HFA is allowed for the M2216 only.
	(AAD), AAA	Allow (Deny) Automatic Answerback. Must disable to add the AAK key.
KEY	xx AAK	Add Automatic Answerback key. xx = key number. Note: The M2216 with AAA cannot use key 5 as a feature key. Key 5 is reserved for handsfree. The M3000 must use key 35.

Feature operation

To activate Automatic Answerback, follow this step:

- Press **Auto Answer**.
Incoming calls to your PDN will ring once, then be answered with Handsfree turned on.

To deactivate Automatic Answerback, follow this step:

- Press **Auto Answer**.
Incoming calls to your PDN will not be answered automatically.

Note: If Automatic Answerback is assigned as a Class of Service instead of a key on your telephone, you cannot deactivate it.

Automatic Call Distribution

Automatic Call Distribution (ACD) is an optional feature. The ACD feature is used when a large number of incoming calls are answered by a group of ACD assigned telephones. Incoming calls are served on a first-in, first-out basis and are distributed among the available telephones so that the agent position that has been idle the longest is given the first call. This guarantees that incoming calls are distributed equally to all agents.

ACD is available in several packages:

- ACD Basic Features (ACD-A)
- ACD Advanced Features (ACD-B)
- ACD Management Reports (ACD-C1)
- ACD Load Management (ACD-C2)
- ACD-MAX, and
- Meridian MAX.

Consult the following documents for complete information regarding the various ACD packages.

Automatic Call Distribution feature description (553-2671-110)

- In-Calls key
- Directory Number key
- Not Ready key
- Release key
- Make Set Busy key
- Night Mode
- Call Source Identification
- Calls Waiting Indication

Display Agents key
Display Waiting Calls key
Incoming Trunk restrictions
Recorded Announcement
Night Treatment
Night Call Forward (NCFW)
Priority trunks
Music on Hold
ACD-CDR Connection Record
In-Band ANI (IANI)
Alternate Call Answer
Automatic Overflow
Call Interflow
Time Overflow (TOF) queuing
Enhanced Overflow
Supervisor control of queue size
Call Forcing
Secondary DN Call Blocking (SDNB)
Dialed Number Identification Service (DNIS)
Routing by DNIS number
Name Display for DNIS
DNIS across call modifications
DNIS on CDR
Enhanced ACD Routing
Customer Controlled Routing (CCR)
Hold in queue for Interactive Voice Response
Music on Delay
Priority Agents
Display Waiting Calls (DWC)
Agent Observe
Supervisor and agent communication
Supervisor Control of Night Service (NSVC)
Agent and Supervisor communication, and
Emergency key.

*Automatic Call Distribution ACD management commands and reports
(553-2671-112)*

CCR reporting information
Agent ID option
ACD telephone log in

Data Agent log in
ACD telephone log out
Data Agent log out
Walkaway/return
Agents using DN keys
Report Control
Management report terminals
ACD supervisor terminal
ACD senior supervisor terminal
Periodic management reports
Warning messages
Report data
Calls per ACD DN
Calls delayed per ACD DN
Total trunk usage per ACD DN
Report length
Short Reports
Enhanced daily totals
Ongoing Status Display
Agent ID reporting
System totals
Daily totals
Accessing the command mode
Set Controlled mode (CNTL)
Set Default ACD DN (DFDN)
Query current options (POPT)
Query current parameters (PPAR)
Select Route and Trunk Assignment (SRTA)
Select Trunk Priority Assignment (SPRI)
Select Agent Position Assignment (SAPA)
Select Agent to Supervisor Assignment (SATS)
First RAN Route Assignment (FRRT)
Second RAN Route Assignment (SRRT)
Night RAN Route Assignment (NRRT)
Automatic Overflow Target DN
Automatic Overflow thresholds (TLDA, TLDB, TLDC)

Time Overflow threshold (TLDD)
Setting the Interflow DN (IFDN)
Telephone Service Factor time (TSF)
Daily system totals
Set Agent Priority (SAGP)
List Agent Position Assignment (LAPA)
List Agent Priority (LAGP)
Enable Call Force
Print CDN Parameters and Options (PCPO), and
Set the Call Ceiling (CEIL).

Customers with PC-based ACD Package D systems (ACD-MAX or Meridian MAX) should also consult the documents listed below:

- *Meridian MAX 3.3-AM Installation* (553-4001-101)
- *Meridian MAX Operation* (553-4001-500), and
- *Meridian MAX System Messages* (553-4001-800).

Network ACD uses Integrated Services Digital Network (ISDN) to allow ACD services over the customer's network for automatic least cost call routing in an ACD environment. In addition to the preceding documents, refer to the following:

- *Network ACD description and operation* (553-3671-120).

Operating parameters

Refer to the documents listed for your system.

Feature interactions

Call Detail Recording on Redirected Incoming Call

The Call Detail Recording records for incoming calls to Automatic Call Distribution (ACD) queues or Terminating on an ACD queue are not affected.

Electronic Lock Network Wide/Electronic Lock on Private Lines

An ACD set cannot be locked.

ISDN Calling Line Identification Enhancements

The ACD DN is sent as the Calling Line Identification (CLID) for a call made by an ACD agent using a DN key on a key other than Key 0. With the feature enhancement, the CLID is constructed using the CLID entry associated with the active DN key. The ACD agent ID is not designed to be sent as the CLID.

If an ACD agent has an active call on Key 0 and if a call transfer or conference is initiated by the ACD agent, the CLID entry associated with the ACD DN Key 0 is used as the CLID (for both local and remote calls).

There is no CLID entry for an analog (500/2500 type) ACD DN. The CLID associated with the analog (500/2500 type) DN is used when a call transfer or conference is initiated by an ACD agent on an analog (500/2500 type) set.

ISDN QSIG Call Completion

Call Completion requests cannot be directed to or from Automatic Call Distribution (ACD) Directory Numbers (DNs).

An ACD set that uses a normal DN key (not the ACD key) can activate the Ring Again key when encountering a busy or no answer situation.

Meridian 911 Call Abandon

When a call is abandoned, the call remains in its current state (i.e., ACD queue, CDN queue, or ringing on an ACD agent set).

Trunk Traffic Reporting Enhancement

A trunk call to an ACD DN will only be considered established once this call is answered. It is not considered established while this call is waiting in the ACD queue. Therefore, at the end of a traffic period, if a trunk call is in the ACD queue, the Traffic Period Option will not accumulate the duration for this call.

Note that when the duration is accumulated at disconnect or at the end of a traffic period after this call is answered, the total duration including the time the call was in the ACD queue is accumulated. This total duration may be longer than a single traffic period due to the time in the ACD queue and a TFS401, TFS402, or TFS403 message may be output.

Feature packaging

Refer to the documents listed for your system.

Feature implementation

Refer to the documents listed for your system.

Feature operation

Refer to the documents listed for your system.

Automatic Gain Control Inhibit

The Automatic Gain Control (AGC) function, supported by the A44 chip in Meridian 1 digital sets, lowers handset sound levels to minimize background noise. The AGC Inhibit enhancement allows a customer to suppress this function, on a system basis.

Whenever a transmission download occurs, which happens following a SYSLOAD or when the set line cord is plugged in, the option setting in LD 17 is included in the message. The message is interpreted by set's firmware and the appropriate setting is applied.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Automatic Gain Control Inhibit is included in base system software.

Feature implementation

LD 17 – Define AGC setting.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ATRN	Configuration Record. Gate opener.
...		
ATRN	YES	Aries (Meridian 1 Modular set) transmission parameter; only prompted if response to TYPE is CFN.
...		
- AGCD	(NO), YES	Automatic Gain Control Disable.

Feature operation

No specific operating procedures are required to use this feature.

Automatic Line Selection

Automatic Line Selection allows manual or automatic selection of incoming and outgoing lines for a given Meridian 1 proprietary telephone on a Class of Service basis. When a user lifts the handset, the telephone automatically selects a preferred line according to its priority. The line preferences are as follows, listed in order of selection priority:

- **Manual Line Selection**
The user manually selects the DN to be used before going off-hook. Dial tone is returned if the line is idle. If the line is ringing, the call is answered and connected to the speaker of the telephone or Handsfree unit.
- **Incoming Ringing Line Selection**
With Incoming Ringing Line Selection enabled, when the user goes off-hook, the telephone automatically scans the DN keys (without the user first manually selecting a DN key). If a line on the telephone is ringing, it is selected and the call is answered.
- **Incoming Non-Ringing Line Selection**
With Incoming Non-Ringing Line Selection enabled, when the user goes off-hook, the telephone scans the DN lines and answers any unanswered incoming calls that appear but do not ring at that telephone.
- **Outgoing Line Selection**
With Outgoing Line Selection enabled, when the user goes off-hook, the telephone scans the DN keys for an idle line. If a line is idle, it is selected and dial tone is returned.
- **Prime Line Selection**
When the handset is lifted, the system processes any manual, incoming, or outgoing line selections. If no line is selected by one of these modes, a designated Prime Line (the DN on key 0) is selected.

Operating parameters

This feature is available on Meridian 1 proprietary telephones only.

The user determines which line is in use by observing lamp state changes.

Feature interactions

Audible Message Waiting

The Audible Message Waiting signal is given if there is a message waiting on whatever line is selected by Outgoing Line Selection.

Automatic Call Distribution (ACD)

An ACD DN is not selected by automatic Incoming Non-Ringing and Outgoing Line Selection. It is selected by Incoming Ringing Line Selection.

Automatic Answerback

Automatic Answerback operates only on the Prime DN (key zero) and has no interrelation with Incoming Ringing/Non-Ringing Line Selection.

Automatic Redial (ARDL)

Manual Line Selection, Outgoing Line Selection or Prime Line Selection is interpreted as accepting the ARDL by the calling party.

Call Waiting

A call on the Call Waiting key is not selected.

Dial Intercom

A Dial Intercom DN is selected by Incoming Ringing Line Selection and Outgoing Line Selection.

Group Call

This feature is not selected for automatic Outgoing Line Selection or Non-Ringing Line Selection. It is selected for Incoming Ringing Line Selection.

Private Line Service

A Private line DN is selected by Incoming Ringing/Non-Ringing Line Selection and Outgoing Line Selection.

Voice Call

This feature is not selected by automatic Outgoing Line Selection. It is selected for Incoming Ringing and Non-Ringing Line Selection.

Feature packaging

Automatic Line Selection (LSEL) package 72 has no feature package dependencies.

Feature implementation

LD 11 – Assign Automatic Line Selection for each Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(IRD), IRA (NID), NIA (OLD), OLA	(Deny) allow incoming ringing line preference. (Deny) allow incoming non-ringing line preference. (Deny) allow outgoing line preference.
LPK	xx	Specify the last key to be scanned for line preference (such as 0-7, 10-17, 20-27). Prompted only if CLS = IRA, NIA, or OLA. Note: A value of 0 (zero) for LPK disables this feature.

Feature operation

No specific operating procedures are required to use this feature.

Automatic Number Identification

The Automatic Number Identification (ANI) feature automatically identifies a station originating an outgoing toll call and its destination party and transmits the information to a recording office.

A system with ANI sends information about stations involved in an outgoing toll call, via Multifrequency (MF) signaling, over Central Automatic Message Accounting (CAMA) trunks to toll-switching CAMA, Traffic Operator Position System (TOPS) or Traffic Service Position System (TSPS) offices.

The software portion of ANI performs the following functions:

- identifies an originating outgoing toll call;
- determines the calling station identification, and controls the signaling and supervision of the ANI trunk circuit;
- connects the MF sender and the ANI trunk circuit;
- loads up to 16 digits that are to be MF outpulsed over the ANI trunk into the MF sender;
- orders initiation of the outpulsing; and
- removes the connection between the trunk and the MF sender and establishes the speech path to the trunk.

ANI signaling

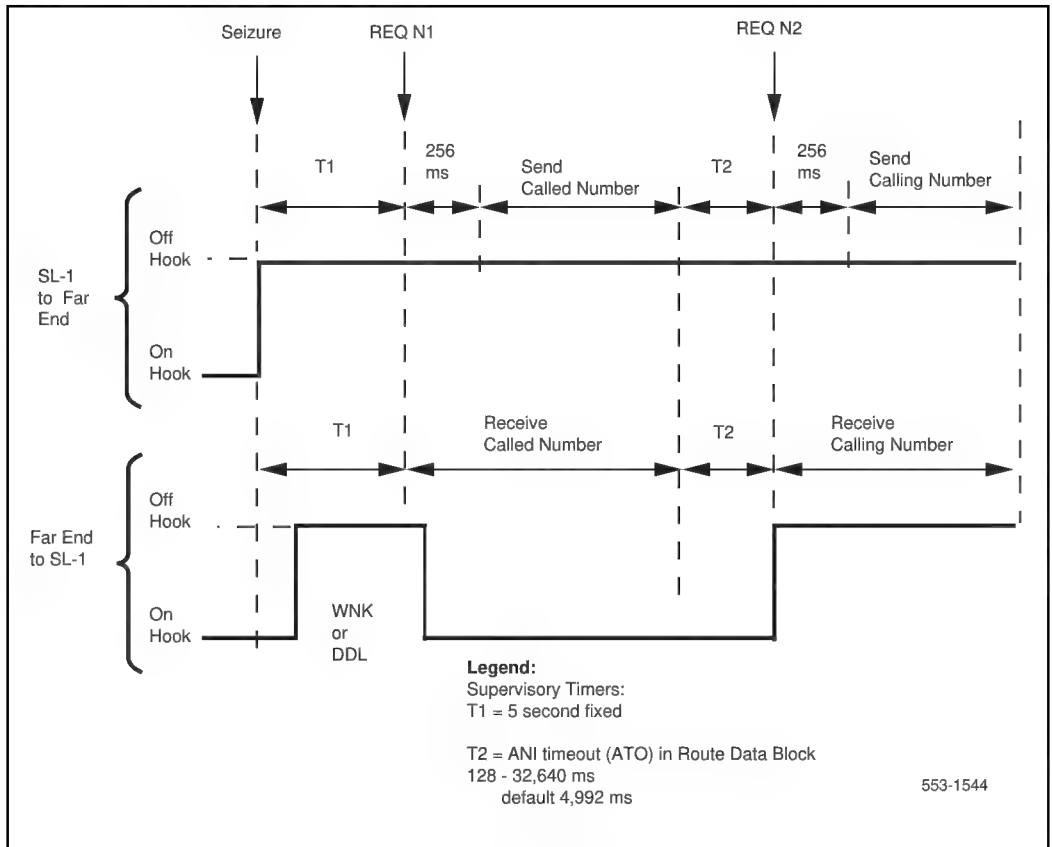
E&M, DX or loop signaling sends ANI information to the Central Office. ANI supports three basic methods: Bell, NT400 and NT500.

- The Bell method interfaces the Meridian 1 Option 11C Compact to the following:
 - Bell system TOPS, TSPS or CAMA offices.
 - Strowger Automatic Toll Ticketing (SATT) systems types 57, 59, 62, and 70A. These systems accept 1+ and 0+ calls from the Meridian 1 Option 11C Compact using MF pulsing through customer-provided adapter circuits.
 - Stromberg Carlson Ticketing Systems.
- The NT400 method (Modes A and B) is an interface to the Northern Telecom NT400 ticketing system. Mode A repeats the toll access code (0 or 1) in the called number, whereas Mode B does not.
- The NT500 method (Modes A, B and C) interfaces to Northern Telecom NT500 ticketing systems.
 - Mode A repeats the Access Code (0 or 1) in the called number format for Central Offices that use MF outpulsing and combined trunk groups.
 - Mode B does not repeat the access code.
 - Mode C is used in Central Offices with MF outpulsing and trunk groups dedicated only to 1+ or 0+ calls.

The Bell and the NT400/500 methods have different supervisory signals and different number formatting, as illustrated in Figures [1](#) and [2](#). Additionally, there are formatting differences between the NT400 and NT500 method. [Tables 8](#) through [11](#) summarize the possible combinations of trunk types and ANI signaling methods.

The MF sender cable allows the Meridian 1 Option 11C Compact to independently outpulse up to 16 digits (including starting and ending digits, called KP and ST respectively) in each of the 30 possible network loop time slots.

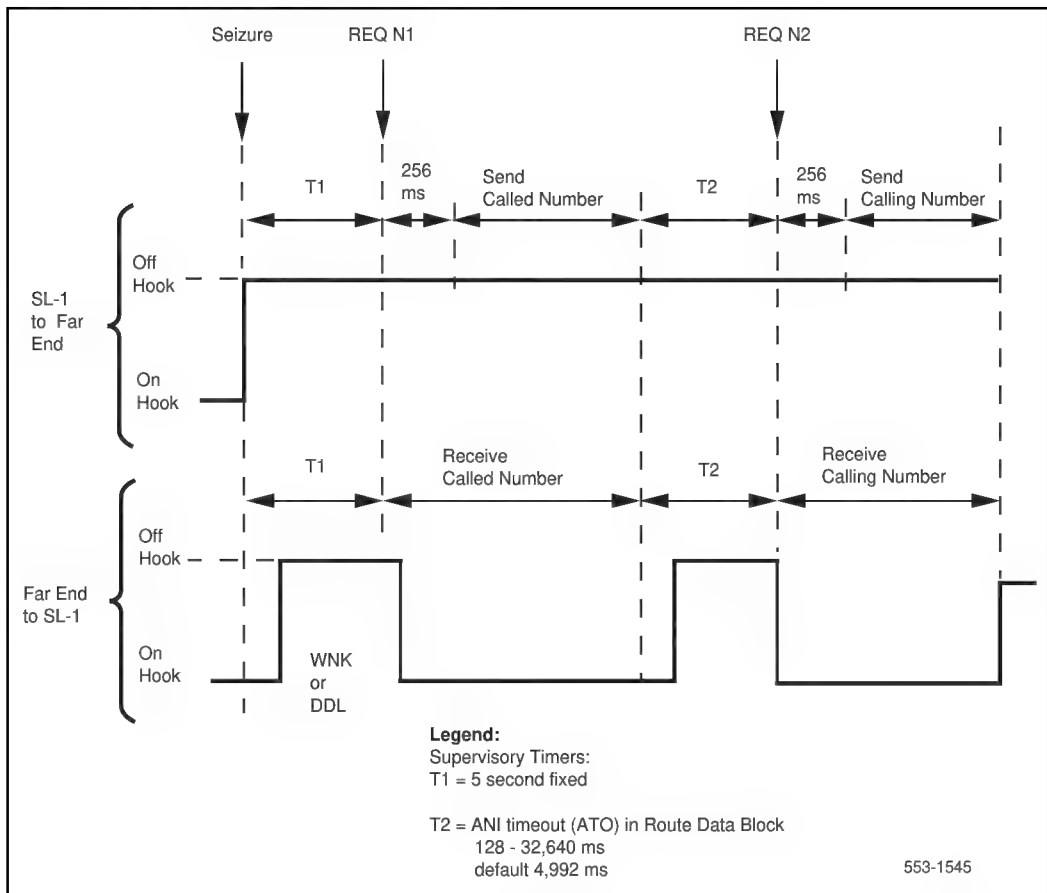
Figure 1
Supervisory signals (Bell method)



Calling and called number information

The called number information always includes the Directory Number (DN) dialed (typically seven or ten digits). The information can also include the toll access code (typically 0 or 1). Multifrequency (MF) sending includes additional control signals such as KP (preparatory digits) or ST (end of pulsing).

Figure 2
Supervisory signals (NT400/500 method)



The calling number information is always sent in MF. It consists of a calling Directory Number (always seven digits), the preparatory and end-of-pulsing signals and other auxiliary signals. For example, an information digit with the Bell method and class mark and category digits with the NT methods.

Each Meridian 1 Option 11C Compact customer system is assigned a three-, four-, or five-digit Automatic Number Identification (ANI) Listed Directory Number that identifies the customer to the toll office. The calling number for ANI is obtained by combining the ANI LDN with one of the following:

Table 8
Called and calling number information format (Bell method)

Dial Pulse (DP) sending of called numbers			
Call type	Called number	Calling number	
		Regular trunk group	Supervisory trunk group
0	seizure no digits	KP+ID+7D+STP	KP+ID+ST3P
0+7/10D	7/10D	KP+ID+7D+STP	KP+ID+7D+STP
1+7/10D	7/10D	KP+ID+7D+ST	KP+ID+7D+ST2P
011+CC+NN	11+CC+NN	KP+ID+7D+ST	KP+ID+7D+ST2P
01+CC+NN	1+CC+NN	KP+ID+7D+STP	KP+ID+7D+ST3P
010	10	KP+ID+7D+STP	KP+ID+7D+ST3P
Modified Bell Multifrequency sending mode (M2B)			
Call type	Called number		Calling number
	Regular trunk group	Super trunk group	
0	KP+STP	KP+ST3P	KP+ID+7D+ST
0+7/10D	KP+7/10D+STP	KP+7/10D+ST3P	KP+ID+7D+ST
00	KP+0+STP	KP+0+ST3P	KP+ID+7D+ST
00+7/10D	KP+0+7/10D+STP	KP+0+7/10DST3P	KP+ID+7D+ST
1+7/10D	KP+7/10D+ST	KP+7/10D+ST2P	KP+ID+7D+ST
011+CC+NN	KP+1+CC+NN+ST	KP+1+CC+NN+ST2P	KP+ID+7D+ST
01+CC+NN	KP+1+CC+NN+STP	KP+1+CC+NN+ST3P	KP+ID+7D+ST
010	KP+1+STP or KP+10+STP	KP+1+ST3 or KP+10+ST3P	KP+ID+7D+ST or KP+ID+7D+ST
Legend: 0+ = Operator-assisted call, more digits dialed 0- = Operator-assisted call, no other digits dialed 00+ = Toll operator assisted call, and any other digits dialed 00- = Toll operator assisted call, no other digits dialed 1+ = DDD call CC = Country code NN = National number ID = Information digit KP = Prepare for digits signal ST = End of pulsing STP = Premium ST2P = Identifier error			

Table 9
Called and calling number information format (NT400 method)

Mode	Call type	Called number	Calling number
A	0+	KP+0+7/10D+ST	KP+CAT+7D+ST ¹
	0-	KP+0+ST	KP+CAT+7D+ST ¹
	1+	KP+1+7/10D+ST	KP+CAT+7D+ST ¹
B	1+	KP+7/10D+ST	KP+CM+CAT+7D+ST ¹
	0-	KP+ST	KP+CM+CAT+7D+ST ¹
	1+	KP+7/10D+ST	KP+CM+CAT+7D+ST ¹

Legend:

CM	=	1 (for 1+ calls)
	=	STP (for 0± calls)
CAT	=	XX (category digits)
X	=	0, 1,...,9, and XX is customer-defined data defining the type of long-distance call
ST ¹	=	ST (normal)
	=	ST2P (identifier failure)
ST ²	=	ST2P (identifier error)
	=	KP (station-to-station 1+)
	=	STP (premium 0±)

- Analog (500/2500 type) set: Directory Number (DN) of the telephone;
- SL-1 telephone: primary DN of the telephone;
- Attendant: ANI attendant number specified on a “per customer” basis; or
- TIE trunk: ANI trunk number specified on a “per trunk group” basis. See *features and services* for information on how to assign ANI on a per trunk group.

Table 10
Called and calling number information format (NT500 method)

Mode	Call type	Called number		Calling number
		Dial Pulse (DP) sending	Multifrequency sending	
A	0+	0+7/10D	KP+0+7/10D+ST	KP+CAT+7D+ST ¹
	0-	0	KP+0+ST	KP+CAT+7D+ST ¹
	1+	1+7/10D	KP+1+7/10D+ST	KP+CAT+7D+ST ¹
B	0+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ²
	0-	not applicable	KP+ST	KP+CAT+7D+ST ²
	1+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ²
C	0+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ¹
	0-	not applicable	KP+ST	KP+CAT+7D+ST ¹
	1+	not applicable	KP+7/10D+ST	KP+CAT+7D+ST ¹
Legend: CM = 1 (for 1+ calls) = STP (for 0± calls) X = 0, 1,...,9, and XX is customer-defined data defining the type of long-distance call ST ¹ = ST (normal) = ST2P (identifier failure) ST ² = ST2P (identifier error) = KP (station-to-station 1+) = STP (premium 0±)				

The Directory Number Expansion (DNXP) package allows an internal DN to have up to seven digits. If the system is equipped with this package, all DN types listed can be expanded to seven digits maximum. Their combined length with the ANI LDN must remain at seven digits.

Table 11
Possible combinations of trunk types and ANI methods

Trunk type	Bell	NT400 A	NT400 B	NT500 A	NT500 B	NT500 C
CAMA-MF	A	A	A	A	A	A
CAMA-DP	A	N	N	A	N	N
CCSA-MF	A	A	A	A	A	A
Legend: A = Allowed N = Not allowed						

The ANI Listed Directory Number is based on the customer's dialing plan. Otherwise, only the leading digits of a DN (station, attendant or TIE trunk) are retained in the ANI calling number. The full seven digits of a DN can be used as the ANI calling number, provided that no ANI Listed Directory Number is configured.

The calling number information is obtained immediately before being sent. Calls that are modified (For example, calls that are attendant extended or transferred) are billed against the party that initiated the trunk call. (This publication is consistent with Automatic Identification of Outward Dialing.)

Automatic Number Identification (ANI)/Central Automatic Message Accounting (CAMA) Enhancement

Two call types available allow the ANI Bell method to handle 00- and 00+ calls. Customers dialing 00 can transmit KP + 0 + STP to access toll operator assistance. When 0 is dialed, customers can transmit KP + STP to access local operator assistance. [Table 12](#) shows the actions taken by calling 00 and other combinations starting with 0.

Table 12
Actions taken with 00- and 00+ calls

Called number	Bell MF M1A action taken	Bell MF M2B action taken
0	KP + STP	KP + STP
0 + 7/10D	KP + 7/10D + STP	KP + 7/10D + ST3P
00	Overflow	KP + 0 + ST3P
00 + 7/10D	Overflow	KP + 0 + 7/10DST3P

After an ANI/CAMA route has been accessed, the Meridian 1 Option 11C Compact receives digits representing the called number. [Table 12](#) identifies the actions taken.

Note: M1A represents the current Bell MF signaling mode. M2B represents the modified Bell MF signaling mode.

Automatic Number Identification/Central Automatic Message Accounting

CAMA routes using Bell MF signaling Mode B output pulse KP + 0 + ..., + START and allow 00- and 00+ calls. 00- and 00+ calls are denied for routes using a different signaling mode.

Controlled Class of Service Allowed (CCSA)

CCSA routes do not support ANI/CAMA.

Route Selection (RS)-Automatic Number Identification

Route Selection for ANI does not support 00- and 00+ dialing. Calls made using 00+ or 00- are treated as 0+ calls. The RS-ANI Data Block determines the 0+ call routing.

Operating parameters

Automatic Number Identification (ANI)/Digital Trunk Interface (DTI) supports CAMA trunks. CCSA-ANI trunks are not supported.

ANI/CAMA operates on a route basis and applies to CAMA routes using the Bell MF signaling method only.

All route members must have a Multifrequency Route (MFR) Class of Service (CLS).

ANI/CAMA is not supported over Dial Pulse trunks. When activating this feature, do not use mixed trunk members.

If 1 or 0 is not dialed following the Trunk Access Code, the Meridian 1 Option 11C Compact system intercepts all outgoing calls over CAMA trunks. This restriction does not apply to outgoing calls over CCSA-ANI trunks.

Feature Interactions

INIT ACD Queue Call Restore

Restored calls do not retain ANI information, unless the call was an incoming call on an M911 trunk.

M911

The Meridian 911 permits special treatment for emergency calls. This feature requires the QPC916 MF receiver card. For more information about this card, see *Feature Group D description and operation*.

Valid Automatic Number Identification combinations

When the Meridian 1 Option 11C Compact receives a call from a 911 trunk, the trunk receives the ANI information through MF signaling from the Central Office. A valid ANI, received via 911, includes a 1-digit NPD or ID digit followed by a 7-digit calling number. The NPD or identification digit can be displayed directly on the answering set display or can be translated to a Numbering Plan Area (NPA) via the Numbering Plan Identification (NPID) translation table in LD 16.

The following are valid ANI digit combinations:

- KP A NXX-XXX ST (where A= the NPD, which can be 0–9);
- KP I NXX XXX ST (where I = an information digit, which can be 0–9);
- KP I ST (where I = the information digit for ANI failure or Operator Number Identification (ONI). ANI failure is usually designated by a 2 and ONI by a 1); and
- KP A ST (where A denotes maintenance testing, typically the digit 8).

If only one digit is received and that digit is defined in the NPID table as TEST or FAIL, the call is treated as a test case or a call with ANI failure.

Table 13 shows an example of an NPID table. The last two fields, ANI Failure and Test Calls, are mutually exclusive. If the NPD/ID digit 0 is interpreted as ANI failure, it cannot also be interpreted as a test call.

Table 13
Interpreting NPD/ID numbers

NPI/Info Digit	NPA	ANI Failure	Test Call
0	408	No	No
1	415	No	No
2	NONE	No	No
3	NONE	No	No
4	NONE	No	No
5	NONE	No	No
6	NONE	No	No
7	NONE	Yes	No
8	NONE	No	Yes
9	NONE	No	No

If the NPA is not specified (NPA = NONE), the NPD/ID digit appears on the set. Otherwise, the NPA appears on the set for calls with a valid ANI.

Seven zeros indicate a failure (for example, MF receive fault, garbled tones or a timeout). After all ANI digits are received or a timeout occurs, the Meridian 1 Option 11C Compact processes the call.

A test call has no display.

Trunk route assignments

The 911 trunk must auto-terminate to a Controlled Directory Number (CDN) defined in LD 23. The start arrangement must be WINK and the Class of Service must be defined as Priority Trunk (APY) and Multifrequency Receiver (MFR).

ANI failure

If ANI information is incorrectly delivered, the call may not have a valid ANI, as indicated by the seven zeros in the display.

ANI failure affects the incoming call's Application Module Link (AML) message, which informs the application with a special DN type value. The 911 caller's DN type Information Element (IE) contains one of these types: ANI with NPD, ANI with ID or ANI failure.

Some Central Offices indicate ANI failure with an 8-digit string consisting of NPD followed by 911-0YYY, where YYY denotes the problem. The ANI string 911-0YYY is not treated as a failure so that the digits appear on the screen rather than being overwritten by seven zeros.

Redundancy and call loss requirements are very precise. If the AML terminal display is unavailable (for example, if the host computer is down), the ANI information still appears on the set display.

CDR for 911 ANI calls

If CLID is set to YES in LD 17, 911 ANI information is included in CDR Q records (connection records). CDR records affected are Normal Records, Start/End Records, Authorization Code Records, Connection Records (Q, R, F) and Charge Account Records.

The CDR Q record option is not recommended, since the Meridian 911 application does not need Connection Records and they consume valuable CPU real time. The CDRQ record can nonetheless be configured to include ANI.

Route Selection (RS-ANI)

The optional Route Selection (RS-ANI) is provided with ANI. RS-ANI routes toll calls automatically through specified trunks to toll offices and routes local calls through CO trunks to local switching offices.

To place an outgoing CO call, the station user dials the RS-ANI Access Code (typically 9), followed by a CO Directory Number. If the user dials 0 or 1 after the Access Code, the call routes through a toll trunk group; otherwise, the call routes through a CO trunk group.

Operation

After receiving the RS-ANI Access Code, the Meridian 1 Option 11C Compact sends the user the second dial tone. The user has 30 seconds to dial a digit or digits. Following this time frame, the Meridian 1 Option 11C Compact removes the dial tone and provides overflow tone for an additional 15 seconds. The second dial tone is removed after the first digit or digits are dialed. [Table 14](#) shows the Meridian 1 Option 11C Compact action that corresponds to the digit dialed.

Although it does provide an overflow tone if the user presses the octothorpe key (#), the Meridian 1 Option 11C Compact ignores the asterisk (*) key. If 0# is dialed, the Meridian 1 Option 11C Compact activates a 4-second timer and times out.

Table 14
RS-ANI operation

Digit dialed	Meridian 1 Option 11C Compact action taken
0	A four second timer starts to monitor the next digit dialed. Routing is based on this digit, as follows:
none	The timer times out and the call (0-) routes through the trunk group specified for 0- calls.
1	The timer cancels, and the call (IDD) routes through the trunk group specified for 1+ of IDD calls.
2–9	The timer cancels, and the call (0+) routes through the trunk group specified for 0+ calls.

Trunk types

TIE trunks access RS-ANI as stations do, but all other trunks are intercepted. Any type of trunk can be used for RS-ANI, with the exception of special-purpose trunks such as Paging, Dictation or Recorded Announcement. Normally, the trunk routes shown in [Table 15](#) are used.

Table 15
Trunk route types

Call type	Trunk type
0±	Central Automatic Message Accounting (CAMA)
1+, 011+, 01+, 010-	Central Automatic Message Accounting (CAMA)
other	Central Office (CO)

Class of Service options

Conditionally Unrestricted station Class of Service places non-ARS-handled toll calls through ANI. Refer to *features and services* and *Software input/output guide* to implement this option. See [Table 16](#) for RS-ANI Class of Service options.

Table 16
RS-ANI Class of Service options

Option	Explanation
UNR	Allowed to receive calls from and originate calls to the exchange network (CO, FX, WATS). This includes toll calls.
CUN	UNR for calls placed through ARS and for calls placed through ANI TLD for all other calls
CTD	UNR for calls placed through ARS TLD for all other calls
TLD	Allowed to receive calls from the exchange network; allowed dial access to local exchange network; allowed access to toll network by means of Meridian 1 Option 11C Compact attendant only; denied access to exchange operator
Legend UNR = Unrestricted CUN = Conditionally Unrestricted CTD = Conditionally Toll Denied TLD = Toll Restricted Service	

Trunk Optimization

ANI trunks allow the Trunk Optimization (TRO) feature to be used whenever calls are routed over PRI and ISL trunks. For additional information on this feature, refer to *ISDN Primary Rate Interface description and administration*.

Directory Number Expansion

If the DN Expansion package is equipped, the ANI billing number (ANAT) can have up to seven digits. The total number of digits for ANAT and ANI listed DN (ANLD) cannot exceed seven.

New Flexible Code Restriction

Calls from Toll Denied (TLD) stations routed by Automatic Number Identification (ANI) are subject to NFCR. Calls placed by Conditionally Toll Denied (CTD) and Conditionally Unrestricted (CUN) Class of Service stations subject to ANI are treated as unrestricted calls.

Feature packaging

The following packages are required for Automatic Number Identification:

- Automatic Number Identification (ANI) is package 12 and
- ANI Route Selection (ANIR) is package 13, which requires:
 - Automatic Number Identification (ANI) package 12.

Feature implementation

LD 15 – ANI customer data.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ANI	Customer Data Block. Gate opener.
CUST	0	Customer number.
ANAT	xxx...x	ANI billing number for attendants making ANI calls. (The total number of digits in ANAT and ANLD cannot exceed seven digits.)
ANLD	xxx...x	ANI listed DN for billing purposes (0-5 digits). (The total number of digits in ANAT and ANLD cannot exceed seven digits.)

LD 16 – Centralized Automatic Message Accounting (CAMA) route data.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer Number.
ROUT	xxx	CAMA route number.
TKTP	CAM CAA	SIGL = Bel, NT4, or NT5. SIGL = Bel.
SIGL	BEL NT4 NT5	Bell method signaling. ITT-North NT400 signaling (only if TKTP = CAM). ITT-North NT500 signaling (only if TKTP = CAM).
FORM	M1A M2B M3C	For BEL, NT4, or NT5 (NT4 and NT5 not applicable if TKTP = CAA). For BEL, NT4, or NT5 (NT4 and NT5 not applicable if TKTP = CAA). For NT5 (only if TKTP = CAM).
ICOG	OGT	Outgoing.
ACOD	xxxx	Access Code.
ID	0-9	Identification digit for CAMA routes (for BEL).
CAT	00-99	Category digits for CAMA routes (only if TKTP = CAM). For NT4 and NT5.
STRK	(NO) YES	(Disable) enable super trunk group feature (Bell method signaling only).
SPTO	(NO) YES	7- to 10-digit, or 3-digit outpulsing for ANI calls.
ANKP	(NO) YES	(Do not) suppress KP signal on ANI calls.
CNTL	(NO) YES	(Do not) allow changes to timers.
- TIMR	ATO 128–65,408	ANI timeout timer in milliseconds (default is 4,992).
- ANDT	(NO) YES	(Do not) provide ANI dial tone.

LD 14 – Centralized Automatic Message Accounting (CAMA) trunk data.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	CAM CAA	CAMA trunk. CAMA-ANI trunk (SIGL = BEL in LD 16).
TN	c u	Terminal Number.
XTRK	EXUT	Trunk Type.
...		
CUST	0	Customer number.
...		
RTMB	0-127 1-126	Route number, Member number.
...		
SIGL	DPN DAS	Digital Private Network Signaling System Number 1. Digital Access Signaling System Number 2.
...		
SUPN	(NO) YES	Answer and disconnect supervision required.
...		
CLS	aaa	Class of Service options.

LD 28 – Route selection data for ANI calls.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RSA	Route selection for ANI.
RASC	xxxx	RS-ANI access code digits.
0-RT	xxxx	Route access code for 0- calls.
0+RT	xxxx	Route access code for 0+ calls.
1RT	xxxx	Route access code for 1+ or IDDD calls.
CORT	xxxx	Route access code for local calls.

LD 16 – Centralized Automatic Message Accounting (CAMA) route data.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer Number.
ROUT	xxx	CAMA route number.
TKTP	TIE, CCSA	Trunk type.
ANTK	xxxx	Billing number for TIE or CCSA trunks that are allowed a tandem connection to ANI.

Feature operation

No specific operating procedures are required to use this feature.

Automatic Number Identification on DTI

Automatic Number Identification (ANI) on Digital Trunk Interface (DTI) extends the ANI feature to digital Central Office (DCO) and Digital Toll Office (DTO) trunks. In addition, the ANI capability is extended to Primary Rate Access (PRA) trunk routes through the Primary Rate Interface.

For further information, refer to the Automatic Number Identification feature module in this guide.

Operating parameters

The QPC189F or NT817 (all vintages) are required to support this feature.

DTI interfaces externally with a digital trunk carrier facility at the DS-1 rate. MF signals pass across this interface in a digitally encoded format.

Supervisory signaling through DTI is accomplished by A&B bit signaling. A&B bit signaling can emulate E&M or loop signaling.

Address (called number) signaling through DTI can be dial pulse or MF. Immediate start or wink start may be used.

Calling number information signaling is done using the MF signaling method.

This enhancement supports the three basic signaling methods for ANI. These are Bell, NT400, and NT500.

Feature interactions

There are no interactions with other features.

Feature packaging

This enhancement is included in Automatic Number Identification (ANI) package 12.

Feature implementation

LD 16 – Define Central Office or Toll Office port types.

Prompt	Response	Description
...		
DTRK	(NO), YES	Digital trunk route.
DGTP	DTI	Digital trunk type.
PTYP	DCO, DTO	CO or Toll Office port type (default DCO).

Feature operation

No specific operating procedures are required to use this feature.

Automatic Preselection of Prime Directory Number

Automatic Preselection allows a user to select the Directory Number (DN) assigned to key zero by lifting the handset. It is not necessary to operate the DN key to get dial tone or to answer an incoming call. The DN assigned to key zero is referred to as the Prime Directory Number (PDN) for that telephone.

Operating parameters

The Automatic Preselection feature does not apply to single-line telephones.

Feature interactions

Automatic Redial (ARDL)

If a call is processed on key 0 and the calling party lifts the handset and selects the Prime Directory Number (PDN), this is interpreted as accepting a redialed call.

Feature packaging

The Automatic Preselection of Prime Directory Number feature is included in base system software.

Feature implementation

The desired Directory Number is assigned to key zero in LD 11.

Feature operation

With this feature enabled, lifting the handset automatically selects the DN assigned to key zero to receive dial tone or answer an incoming call on that key.

Automatic Set Relocation

Automatic Set Relocation (ASR) and Modular Telephone Relocation (MTR) move a telephone to another location without the intervention of a craftsperson. MTR reduces the number of steps required to relocate the Meridian 1 Modular Terminals.

With ASR, Directory Numbers (DNs) and features assigned to the telephone are maintained. Up to 32 telephones can be relocated at any one time. The following access codes are associated with this feature:

- Special Prefix code (SPRE) relocation code 81
SPRE codes are system codes that enable analog (500/2500 type) telephones to utilize additional telephone features. Refer to “Telephones” module in this document or the “SPRE” module in this document.
- Flexible Feature Code (FFC) relocation number
FFCs are user programmable codes that enable analog (500/2500 type) telephones to access certain telephone features. Refer to the “Flexible Features Codes” module in this document.
- Security code
You must enter the security code before a telephone can be moved.
- Identification code
The identification code is user selectable, and can be any four-digit number (excluding the symbols * and #). (MTR does not require this code.)

This feature is also used to install and enable line cards to make unused telephone locations available for telephone relocation. Adding the first telephone on a line card by using the Service Change overlay enables that card (if it is not already enabled). Removing the last telephone from a line card leaves that card enabled; it does not disable the card.

Automatic Set Relocation (ASR) requires the circuit units on SL-1 and digital line cards used for supplementary power to be specified as power units in LD 12. This allows the Meridian 1 Option 11C Compact system to disable signaling to these units, while leaving unequipped units enabled for telephone relocation. If power units are not specified, they generate erroneous messages and may disable the entire card.

After putting a telephone back into service, the craftsman should wait at least 20 seconds before using the telephone.

Modular Telephone Relocation

Modular Telephone Relocation enhances ASR to make relocating Meridian 1 Modular Telephones simpler and faster (by omitting the requirement for an identification code). The following telephones support Modular Terminal Relocation:

- M2006
- M2008
- M2016S
- M2216, and
- M2616.

When a telephone is relocated out, a relocation block is automatically built to store the relocation information in the protected data area. The relocation block includes the old Terminal Number (TN), the terminal ID information, the serial number of the telephone, and feature information. If a data dump occurs, the relocation block is not copied to the disk.

Modular Telephone Relocation uses the unique serial number and terminal ID of the Meridian 1 Modular Telephones (instead of the identification code) to identify the one being relocated. This reduces the number of steps needed for relocation.

A telephone's successful relocation is indicated by a 180-millisecond buzz through the telephone's loudspeaker, not a tone through the handset. The buzz occurs after the telephone is plugged into the new location, and the parameter download to the Meridian 1 Modular Terminal is complete.

Modifying the relocation table

The relocation table contains information regarding the telephone's serial number, Terminal Number, and terminal identification. When a telephone is relocated OUT, the table maintains the necessary telephone information. When the telephone is relocated IN, the Meridian 1 searches the table for that telephone's information. When the information is found, the data is moved to the new location. The telephone data is then removed from the relocation table.

Through LD 50, the serial number or any terminal ID information may be modified while the telephone is relocated out (before it has been relocated back in). For example, use LD 50 when replacing a telephone with another one of the same type with a different serial number or terminal ID, but the same key configuration.

LD 21 prints information about telephones that have been relocated out.

The IDU (ID for Unit) command in LD 32 determines the telephone's serial number and ID information.

Operating parameters

A single-line telephone must be relocated to a vacant position on an analog (500/2500 type) Line Card.

An SL-1 telephone must be relocated to a vacant position on an SL-1 Line Card. A digital telephone must be relocated to a vacant position on a Digital Line Card (DLC) or Integrated Services Digital Line Card (ISDLC) in the switch.

An Add-on Data Module (ADM) must be relocated to a vacant data port on a Data Line Card. A collocated SL-1 telephone and ADM must be relocated to a vacant voice and data port combination on a Data Line Card.

Moving a telephone from an off-premise to on-premise location or vice versa is not recommended as incorrect pad values on connections may result.

A Manual Line telephone cannot be relocated using the Automatic Set Relocation feature.

The relocation table allows a maximum of 32 telephones to be relocated out at one time.

A relocated out telephone cannot be relocated in to an already defined TN. A telephone being relocated in must be plugged into a TN location that currently has no assigned telephone information.

Automatic Call Distribution (ACD) agent telephones with an associated supervisor and the ACD supervisor telephones cannot be relocated.

If a data dump occurs while a telephone is relocated out, a SYSLOAD returns the telephone to its original TN location. If a telephone was in the relocated out state when the last data dump occurred, and has since relocated in, another data dump is necessary. The second data dump prevents a SYSLOAD from returning the telephone to its previous TN location.

When Modular Telephone Relocation is used and the overflow tone is returned during relocation out, the relocation attempt is abandoned. Try the relocation again.

When Modular Telephone Relocation is used, there is a slight delay between the time the telephone is plugged in and the buzz. The buzz occurs after the telephone is relocated in, enabled, and downloaded. This delay is traffic dependent. If no buzz is received, the relocation is unsuccessful.

When Modular Telephone Relocation is used and a telephone is relocated out, a Customer Service Change (CSC) message containing the old TN number, serial number, and terminal ID is displayed on the TTY. When a telephone is relocated in, a CSC message containing the old TN and new TN is displayed. These messages are placed in the History File.

When Modular Telephone Relocation is used and a SYSLOAD occurs before a data dump completes, the data for all telephones relocated in or out is lost. Return the telephones to their original location and repeat the relocation process.

Feature interactions

Automatic Redial (ARDL)

If the calling party's set is relocated, the ARDL request is cancelled.

Call Forward No Answer Hunting

Calls will not hunt or forward no answer to a telephone that is being relocated.

Call Forward Ring Again

If Call Forward, or Ring Again is active when a telephone is relocated, the feature is deactivated.

Enhanced Flexible Feature Codes - Busy Number Redial

The Busy Number Redial feature is deactivated when a set is relocated.

Make Set Busy

If Make Set Busy is active when the telephone is relocated, Make Set Busy remains active.

Multiple Appearance DN Redirection Prime (MARP)

The original MARP TN is restored when the telephone relocates.

When Automatic Set Relocation or Meridian 1 Modular Terminal is used to move a telephone, the telephone's MARP designations are maintained. If the TN is a MARP for one or more DNs, the system maintains the MARP TN. A system message indicates the telephone relocation.

When a set leaves the system due to set relocation, the following CSC message appears:

CSC010 x y
x = old TN (l s c u) for the telephone
y = ID code entered

While the telephone is being relocated, a temporary MARP TN is assigned. The following SCH message appears for each DN associated to the removed MARP TN.

SCH5524 DN nnnn NEW MARP l s c u
nnnn = the DN associated with the MARP TN
l s c u = the new default MARP for DN nnnn

The same message given through Attendant Administration displays on the Attendant Console when a MARP is assigned for a DN. The History File can be configured to store these messages until a printout is requested.

When a telephone reenters the system, the following message appears:

CSC011 x y
x = old TN (l s c u) for the telephone
y = new TN (l s c u) for the telephone

The following message appears again for *each* changed TN:

SCH5524 DN nnnn NEW MARP l s c u
nnnn = the DN associated with the MARP TN
l s c u = the new MARP TN assigned to DN nnnn

Power Fail Transfer

Since Power Fail Transfer is hardwired to certain Terminal Numbers, this feature is not maintained by a telephone when it is relocated.

Feature packaging

Automatic Set Relocation (ASR) package 53 has no feature package dependencies.

Modular Telephone Relocation requires the following:

- Automatic Set Relocation (ASR) package 53
- Meridian 1 Modular Terminals (ARIE) package 170, and
- Digital telephones (DSET) package 88.

Feature implementation

LD 15 – Assign Automatic Set Relocation security code.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- SRCD	xxxx, <CR>, X	Automatic Set Relocation security code; default is 0000; X removes security code.

LD 10 – Enable/disable line circuits for Automatic Set Relocation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CARD	500/2500 line circuit for Automatic Set Relocation.
TN	c u	Terminal Number.

LD 11 – Enable/disable line circuits for Automatic Set Relocation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CARD	SL-1 or digital line circuit for Automatic Set Relocation.
TN	c u	Terminal Number.

LD 12 – Gather data for each SL-1 line circuit to be used as a supplementary power source.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	PWR	SL-1 line circuit for supplementary power.
TN	c u	Terminal Number.

LD 17 – Allow ASR messages to be printed at a system terminal or stored in the History File.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ADAN	Configuration Record. Gate opener.
IOTB	(NO), YES	(Do not) change input/output terminals or devices.
HIST	(0)-65534	History File buffer length.
- ADAN	NEW, CHG aaa x	System terminal device number for Automatic Set Relocation messages. aaa and x = HST. PRT 0-15. TTY 0-15.
- USER	CSC	Customer service change (Automatic Set Relocation) messages.

LD 17 – Allow Automatic Set Relocation messages to be printed at a system terminal or stored in the History File.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN ADAN	Configuration Record. Gate opener.
- ADAN	NEW, CHG aaa x	System terminal device number for Automatic Set Relocation messages. aaa and x = HST. PRT 0-15. TTY 0-15.
- CTYP	aaaa	Card type, where: aaaa = DCHI, MSDL, MSPS, SDI, SDI2, SDI4, or XSDI.
- DNUM	(0-15)	Device number printed automatically (same as ADAN number).
- USER	CSC	Customer service change (Automatic Set Relocation) messages.
CUST	0-99	Customer number.

LD 32 – Query information regarding a terminal's type, NT code, color, release number, and unique serial number.

IDU l s c u	Prints telephone's information.
-------------	---------------------------------

LD 50 – Remove an entry in the relocation table.

Prompt	Response	Description
REQ	OUT, CHG	Remove, or change an entry in the relocation table.
TYPE	MTRT	Modular Telephone Relocation Table.
TN	l s c u	Terminal Number.
SER	xxxxxx	Serial number (prompted for changes only).
NTCD	xxxxxxx	NT code (for changes only).
COLR	xx	Color (prompted for changes only).
RLS	xx	Release (prompted for changes only).

LD 21 – Print information in the relocation table.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	SRDT	Set relocation data.

Feature operation

Automatic Set Relocation

To use Automatic Set Relocation:

- 1 Lift the handset.
- 2 Enter the relocation code (either SPRE 81 or the Flexible Feature Code).
- 3 Enter the security code. The default is 0000.
- 4 Enter the four-digit code to identify your telephone. A tone confirms the telephone is ready to be moved.
- 5 Unplug the telephone and install it at the new location.
- 6 Wait 30 seconds after plugging the set into the new location, lift the handset, and dial the four-digit identifier. A tone confirms the telephone has been moved successfully.

Modular Telephone Relocation

To relocate a telephone using Modular Telephone Relocation:

- 1** Lift the handset or activate handsfree.
- 2** Enter the relocation code (either SPRE 81 or the Flexible Feature Code).
- 3** Enter the security code. The default is 0000.
- 4** A two-second tone burst confirms that the telephone is relocated out.
- 5** Unplug the telephone and install it at the new location.
- 6** The confirmation buzz through the telephone's loudspeaker indicates the telephone is in service.

Note: All calls associated with the telephone receive force disconnect while it is relocated out. The telephone information automatically moves to the relocation table.

Automatic Timed Reminders

Automatic Timed Reminders alert the attendant when a call extended to a station by the Attendant Console has not been answered within a predefined period of time. Recall timers for different conditions can be specified by the customer as follows:

- Slow Answer (set in increments of six seconds)
- Camp-On (set in increments of two seconds), and
- Call Waiting (set in increments of two seconds).

If no entry is made, the default is 30 seconds in each case.

Operating parameters

There are no feature requirements.

Feature interactions

Call Forward No Answer

Call Forward No Answer Second Level

When Call Forward No Answer is activated on a telephone, the slow answer timer begins only after the call reaches its final destination.

Call Park

A Call Park recall to an attendant appears on the Recall Incoming Call Indicator.

Call Waiting Redirection

When Call Forward No Answer (CFNA) is active, the Slow Answer Recall timer begins only after the call reaches its final destination. CFNA has precedence over Attendant Recall for attendant-extended calls. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by CFNA for sets with CFNA enabled.

Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Feature packaging

Automatic Timed Reminders is included in base system software.

Feature implementation

LD 15 – Define Recall timers and add/change a Recall Incoming Call Indicator key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB TIM	Customer Data Block. Gate opener.
CUST	0	Customer number.
- RTIM	xxxx yyyy zzzz	Recall timers. xxxx = slow answer, 0-3,066, in six-second increments (default 30 seconds). yyyy = Camp-on, 0-1,022, in two-second increments (default 30 seconds). zzzz = Call Waiting, 0-1,022, in two-second (increments (default 30 seconds).
TYPE	ATT	Gate opener.
ICI	0-19 RLL	Add RECALL ICI to all consoles.

Feature operation

One optional Recall Incoming Call Indicator (ICI) key is provided on the Attendant Console for operator-extended recalls.

Auxiliary Signaling

In some situations, customers require special auxiliary devices such as bells, buzzers, or lights to be connected through the Meridian 1 Option 11C Compact system. These devices are activated through a regular 500/2500 Line Card and its associated data block.

Operating parameters

A C4A ringer, or any other special signaling device that can be activated by a 20 Hz ringing signal, can be equipped through the 500/2500 Line Card.

A maximum of five C4A ringers or equivalent devices can be configured on one Terminal Number. This limit depends on the device's impedance to the 20 Hz ringing.

Feature interactions

Mixed DNs

If the DN associated with the signaling device appears on analog (500/2500 type), or Meridian 1 proprietary telephones, the telephone can answer or connect into an active call.

Feature packaging

Auxiliary Signaling is included in basic system software.

Feature implementation

The 500/2500 data block is programmed in LD 10.

Feature operation

No specific operating procedures are required to use this feature.

Bridging

With Bridging, the same DN can appear on up to eight single-line telephones. A maximum of five of these telephones can be equipped with ringers.

Incoming calls ring all telephones with a ringer connected and can be answered at any of the single-line telephones.

Operating parameters

A maximum of five C4A ringers are allowed on one parallel loop.

Feature interactions

Privacy

Privacy is lost when telephones are bridged. Any appearance of the DN can enter the call by going off-hook.

Feature packaging

Bridging is included in base system software.

Feature implementation

No change to existing configuration is required for the Bridging feature.

Feature operation

No specific operating procedures are required to use this feature.

Busy Lamp Field

There are two types of Busy Lamp Field (BLF) modules.

Attendant Blocking of Directory Number

When a DN is blocked due to the Attendant Blocking of Directory Number feature, the Busy Lamp Field/Enhanced Busy Lamp Field lamp corresponding to this DN displays the busy status of the DN as for ringing calls.

QMT3 Lamp Field Array

The QMT3 Lamp Field Array is an add-on module for SL-1 telephones and QCW Attendant Consoles. It displays the status of a specified 150 consecutive Directory Numbers (DNs), defined in LD 15 (Standard Busy Lamp Field [SBLF]). A maximum of two Lamp Field Arrays can be supported per customer. Both Lamp Field Arrays in the customer group display status for the same 150 DNs.

Busy Lamp Field/Console Graphics Module

The Busy Lamp Field/Console Graphics Module (BLF/CGM) is an add-on module for the M1250 or M2250 Attendant Consoles. It can be configured to display the status of a specified 150 consecutive DNs (Standard Busy Lamp Field [SBLF]), or all DNs, 100 at a time (Enhanced Busy Lamp Field [EBLF]). By monitoring the status, an attendant can tell a caller if the DN is busy prior to extending the call.

Enhanced Busy Lamp Field (EBLF) Array displays the status of all DNs for a customer. The BLF/CGM displays the status of 100 DNs at a time on up to 63 M1250/M2250 Attendant Consoles. Each of the Console Graphics Modules can display a different hundreds group, while up to 20 CGMs can display the same hundreds group simultaneously.

When the attendant extends a call, a hundreds group is displayed after enough digits have been entered to determine the group. After a group has been established, the BLF/CGM shows the status for each DN in that group. [Figure 3](#) shows an example of the EBLF on the BLF/CGM.

The EBLF continues to display the status of the hundreds group until another group is determined or until the module is cleared. The display is updated whenever the status of a DN in that group changes. The BLF is cleared when the attendant dials a new series of digits or releases the call.

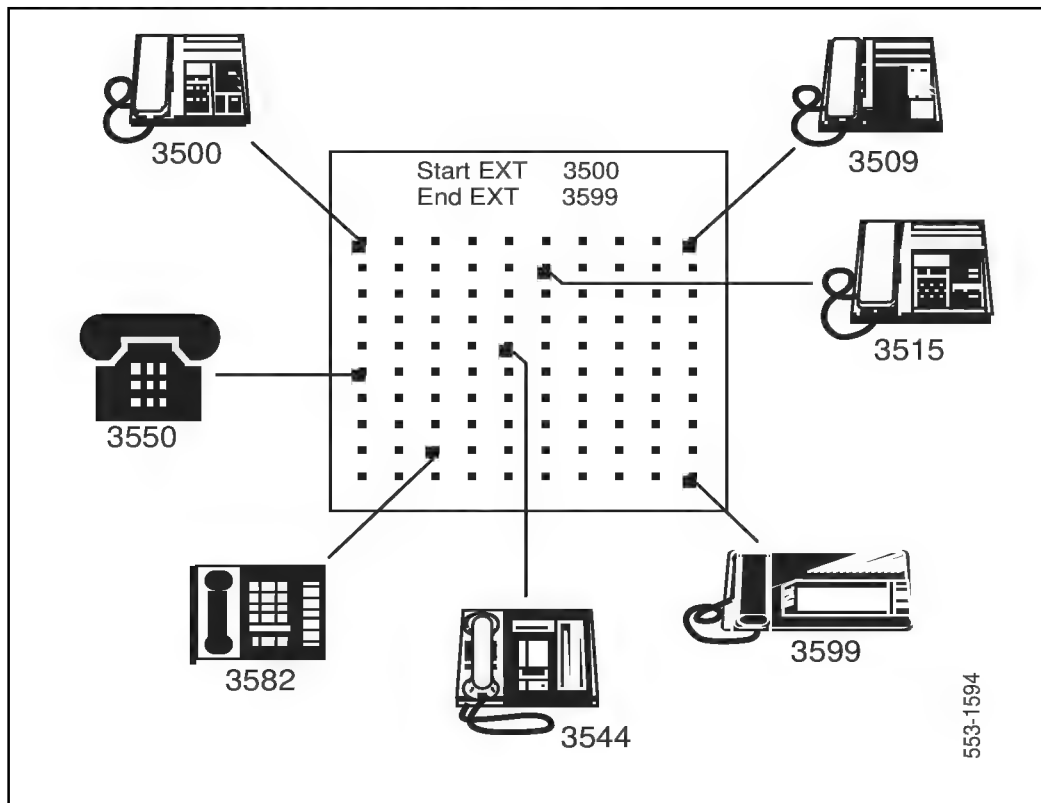
[Figure 3](#) shows the Standard Busy Lamp Field (SBLF) display on the CGM. The first and last DNs in the displayed group are listed as START EXT and END EXT. The START and END EXT DNs show the hundreds group displayed. The top row on the CGM designates the tens group. The left side shows the ones group. [Figure 3](#) shows the busy DNs to be 3403, 3408, 3410, 3421, 3482, 3488, 3494, 3500, 3543, and 3549.

[Figure 4](#) shows a system monitored by the EBLF. Each telephone represents a busy DN, listed beneath the telephone icon. The display screen at the top of the module defines the hundreds group as 35. The CGM displays the busy DNs within that group. The larger squares represent busy telephones within the group, and the smaller squares represent idle DNs. The attendant can quickly see which telephones are busy and which are idle.

Figure 3
Standard Busy Lamp Field on the BLF/CGM



Figure 4
Enhanced Busy Lamp Field monitoring (example)



Operating parameters

Enough hundreds groups must be defined to support the maximum number of telephones to be monitored. The maximum number of hundreds is 99.

The EBLF requires an M1250/M2250 Attendant Console equipped with a BLF/CGM. It does not work with the earlier Attendant Consoles using a QMT3 Lamp Field Array.

The SBLF and the EBLF are incompatible.

The EBLF supports mixed dialing plans (4, 5, 6, or 7 digits), but each hundreds group defined must be unique. For example, DNs 25XX and 25XXX cannot be configured in the same system. Any other DN group must begin with something other than 25 because, in this case, the CGM would be updated for DNs 2500 through 2599.

Only 20 Attendant Consoles can be updated for the same hundreds group simultaneously. If more than 20 consoles are monitoring the status of a single hundreds group, only the first 20 are updated. The remaining consoles display the earlier status, and an error message is output at this occurrence. (An unlimited number of consoles can be updated when they display different hundreds groups.)

When the Make Set Busy key is activated or deactivated, BLF updates only the first DN it finds on the Attendant Console. Lamp audit updates the status of subsequent DNs on the BLF.

Feature interactions

Attendant Blocking of Directory Number

When a DN is blocked due to the Attendant Blocking of DN feature, the Busy Lamp Field/Enhanced Busy Lamp Field lamp corresponding to this DN displays the busy status of the DN as for ringing calls.

Make Set Busy

When a Make Set Busy key is activated, the Busy Lamp Field array will indicate that the first DN only on that set is busy.

Feature packaging

Busy Lamp Field Array (BLFA) is included in base system software.

EBLF requires the BLF/CGM.

Feature implementation

Response to the following prompts in the listed overlays is required for this feature to operate properly. In addition, at least one DN in each hundreds group must be activate.

LD 29 – Estimate the memory required for Enhanced Busy Lamp Field trees.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB	Customer Data Block.
TYNM	EBLF xx yy z	Enhanced Busy Lamp Field, where: xx = number of Customers to get EBLF yy = Average number of Hundreds Groups (HGRP) per customer, and z = Average DN length (4, 5, 6, or 7).
Note: This overlay is required for ST and Option 21 systems.		

LD 15 – Define the Busy Lamp Field/Console Graphics Module options in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(XLF), ILF (XBL), IBL	(Exclude) include Standard Busy Lamp Field. (Exclude) include Enhanced Busy Lamp Field.
- LFTN	l s c u	Lamp Field TN for first display console. Prompted only if OPT = ILF.
- LFTN	l s c u	Lamp Field TN for second display console. Secondary TN if this is the Attendant Console.
- LFFD	xxx...x	First DN for the Lamp Field Array for ILF; last two digits of the first DN must be 00. First DN must start on even 100 (e.g., 3400 is acceptable, but 3450 is not).

LD 12 – Identify which Attendant Consoles have Enhanced Busy Lamp Field on the BLF/CGM.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
EBLF	(BLFD), BLFA	(Deny) allow Enhanced Busy Lamp Field. Prompted only if TYPE = 1250 or 2250.

When the BLF is configured before the telephones are programmed, the procedures in LD 10 and LD 11 are not required. As an alternative to reentering data when the BLF is configured after the telephones, a SYSLOAD associates the DN with the Hundreds Group (HGRP).

LD 10 – Activate DN hundreds groups for EBLF for each DN within each hundreds group.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DN	xxx...x	Reenter Directory Number (no change necessary).

LD 11 – Activate DN hundreds groups for EBLF for each DN within each hundreds group.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx aaa yyy...y	Reassign Directory Number (no change necessary), where: xx = key number aaa = DN type, and yyy...y = Directory Number.

Feature operation

To display the status of extensions on the BLF/CGM (attendant), follow these steps:

- 1** Press the **SHIFT** key, then the conf. 6/BLF key.
The console is in the BLF mode.
- 2** Press the **Mode** key .
The BLF/CGM screen displays the main menu.
- 3** Dial 0 (zero).
The BLF/CGM displays the SBLF or the EBLF, depending on which option is configured in the system software.

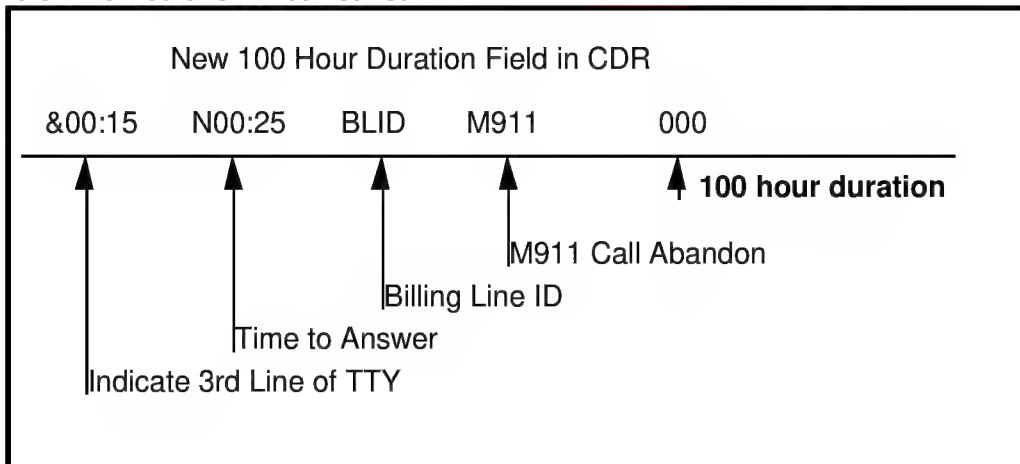
For complete feature operation, see *Busy Lamp Field/Console Graphics Module user guide* (P0706875).

Call Detail Recording 100 Hour Call

The Call Detail Recording 100 Hour Call feature expands the Call Detail Recording (CDR) duration measurement capability to accommodate calls with a duration greater than 99:59:59.

This feature introduces a new 100 Hour Duration field. This new field is automatically displayed on the third line of all current Fixed Format CDR record types that have the duration field even though the call may be less than or greater than 99:59:59. [Table 17](#) illustrates the new CDR format for CDR 100 Hour Call.

Table 17
The CDR format for CDR 100 Hour Call



The new 100 Hour Call measurement reflects the one hundred, thousand and ten thousand hours call duration. Accordingly, this expansion increases the maximum duration of a call, that Call Detail Recording can record, to approximately eleven years and one hundred and fifty three days.

For a more detailed description of Call Detail Recording capabilities, please refer to the Northern Telecom Publication 553-2361-101.

Operating parameters

The maximum number of hours for call duration that can accurately be recorded is 99999:59:59.

All other existing parameters that apply to the operation of CDR also apply to this feature.

Feature interactions

There are no interactions with other features.

Feature packaging

Call Detail Recording 100 Hour Call requires Call Detail Recording (CDR) package 4 and New Format Call Detail Recording (FCDR) package 234.

Feature implementation

LD 17 – Configure Call Detail Recording Format.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	PARM	Gate opener to change system parameters.
...		
- FCDR	NEW	Format for Call Detail Recording. If the response OLD is entered, the original CDR Format is retained.

Feature operation

No specific operating procedures are required to use this feature.

Call Detail Recording

Call Detail Recording (CDR) records information about selected calls for accounting purposes. For each call, CDR identifies the calling and called parties and notes the time and duration of the call. A record describing the complete call is output by the Meridian 1 Option 11C Compact system when the call is terminated. The following five recording options are available and can be specified by the customer in any combination for each trunk route:

- all outgoing calls
- all outgoing toll calls
- outgoing answered calls
- outgoing answered toll calls, and
- all incoming calls.

For outgoing calls, all calls seizing a trunk in that route are recorded from the time of trunk seizure, no matter how long or short the call is. If answer supervision is allowed on the Meridian 1 Option 11C Compact system, calls placed over tandem TIE trunks are billed from the time the call is answered. The caller is not charged the time it takes for dialing, digit outputting, or ringing.

For incoming calls, all calls answered by a telephone or Attendant Console are recorded.

Three output options are available:

- System terminal: CDR system terminal (CTY)
Information is output in ASCII serial format suitable for a system terminal or equivalent device.

- Magnetic tape: CDR Data Link (CLNK)
Information is output in binary format to a QCA11 CDR machine for downstream processing.
- Both system terminal and magnetic tape.

The Meridian 1 Option 11C Compact system provides access to as many as 16 input/output ports, which can include any combination of designated CDR system terminal (CTY) or CDR Data Link (CLNK) ports. Because each customer on a Meridian 1 Option 11C Compact can access multiple CDR ports, system terminal and magnetic tape CDR recording machines can be used at the same time for the same customer.

For detailed descriptions of CDR please see 553-2631-100.

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature provides enhancements to Call Detail Recording (CDR) operation on incoming calls.

Without this feature, when an incoming call is redirected the Terminating ID field of the CDR record shows the party before the last party in the redirection chain. It does not show the answering party. With the Call Detail Recording on Redirected Incoming Calls feature the customer is provided with the option to retain the current operation (i.e., identify the party before last) or print the last party (i.e., the answering party) in the Terminating ID field. This functionality is provided for calls that have been redirected by:

- Call Forward All Calls
- Call Forward No Answer
- Call Forward Busy, and
- Hunt.

Operating parameters

Call Detail Recording on Redirected Incoming Calls operates on a standalone basis and only applies to incoming calls.

In the case of an incoming call being forwarded to an outgoing trunk, existing operation is maintained to ensure that the party who redirected the call externally is charged.

Feature interactions

Automatic Call Distribution

The CDR records for incoming calls to Automatic Call Distribution (ACD) queues or Terminating on an ACD queue are not affected.

Call Forward All Calls

Call Forward No Answer

Call Forward Busy

Hunting

The Call Detail Recording on Redirected Incoming Calls feature does not affect how these features operate; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Park

There is no interaction with Call Detail Recording on Redirected Incoming Calls, as there is no “N” record generated in a Call Park scenario.

Call Pickup

When an incoming call is picked up, the answering set is identified in the Terminating ID. This operation remains the same.

Initialization

If the system initializes, the CDR information is lost.

Meridian Mail

The CDR records for incoming calls terminating on Meridian Mail are not affected.

Feature packaging

The Call Detail Recording on Redirected Incoming Calls feature is included in Call Detail Recording (CDR) package 4.

Feature implementation

LD 15 – There is no change to this overlay; however, the existing CDR prompt needs to be set to YES.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDR	Gate opener.
...		
CDR	(NO), YES	CDR provided. Must be set to YES.

LD 16 – Configure the new CDR record format for the Terminating ID field “LAST”.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
...		
CDR	(NO), YES	CDR provided.
- INC	(NO), YES	CDR records generated on incoming calls.
- LAST	(NO), YES	CDR record printing content option for redirected calls. If YES is entered in response to this prompt, the Terminating ID field in the CDR record will contain the last party. If NO is entered, the Terminating ID field in the CDR record will contain the one before the last party.

Feature operation

No specific operating procedures are required to use this feature.

Call Forward All Calls

Call Forward All Calls (CFW) automatically forwards incoming calls to another destination, within or outside the Meridian 1 Option 11C Compact system. Only calls to the Prime DN or any single-appearance DN on the telephone are forwarded. Outgoing calls can still be placed from the telephone when Call Forward is active.

Meridian 1 Option 11C Compact supports selectively activating Call Forward depending on the source of the originating party. With the Internal Call Forward (ICF) feature, the user can cause only internal calls to be forwarded. Second, the Call Forward Reminder Tone (CFRT) presents special dial tones on analog (500/2500 type) telephones with CFW active. One tone indicates that CFW is active; a second indicates that there is a message waiting for the telephone with CFW active.

Call Forward All Calls, as well as Internal Call Forward, is assigned on a per-telephone basis. Meridian 1 proprietary telephones must be equipped with separate key/lamp pairs to allow the activation and deactivation of each feature. Customers can specify the length of the destination number in LD 11. Options are 4, 8, 12, 16, 20, or 23 digits. If you enter another number for the length, the system rounds to the nearest acceptable choice. The default is 16 digits.

When you use Multiple Appearance DN's (MADNs), call redirection is determined based on the Terminal Number (TN) order in your DN block. To determine the TN order, print the DN block from LD 20 or LD 22 (TYPE = DNB). When a call comes in to an MADN, the system begins a search to determine how the call will be handled. Using the TN list you printed, the system performs the following search, beginning at the bottom of the TN list, and working up.

- 1 Searches for the first Prime DN appearance of the MADN with Call Forward All Calls activated.
- 2 If there are no Prime DN appearances, the Call Forward All Calls cannot be activated.

Note: The search does not necessarily determine the lowest numerical TN. The search starts at the bottom of the TN list.

Operating parameters

The forwarding of a call depends on the access restrictions assigned to the telephones and the trunks involved in the call. If call forwarding results in a connection that is not permitted by the assigned access restrictions, the incoming call is not forwarded.

The customer can specify which telephone determines the successful completion of the call: the originating telephone or the forwarding telephone.

Internal Call Forward requires a programmable feature key. Therefore, Internal Call Forward is not supported on BRI telephones.

LD 17 CFWS allows telephones to have their CFW status saved as part of the data dump routine and then reinstated following a SYSLOAD. For more information, refer to the Call Forward Save module.

Call Forward Reminder Tone does not apply to telephones such as the SL-1 that have a visual indication of active CFW status.

The Reciprocal Call Forward All Calls option prevents the situation whereby an infinite loop is caused in a network-wide Call Forward configuration resulting from telephone A being call forwarded (all calls) to telephone B at another node, which in turn has been call forwarded back to telephone A. A check is provided via the Flexible Orbiting Prevention Timer (FOPT), which prohibits any telephone from call forwarding more than one call off node for a period of 14 seconds.

The Flexible Orbiting Prevention Timer, previously fixed at 14 seconds, can be set during Service Change from 0 to 30 seconds (even numbers only). If a value of 0 is defined, then Orbit Prevention is disabled and call forwarding is not inhibited in any way.

The Orbit Prevention protection, however, does not extend to all potential orbiting situations. Improperly engineered networking or multiple switching arrangements can produce orbiting.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Forward All Calls are charged against the last set that answers the call and the controlling set releases. Additionally, the last party that transfers or forwards a call to an ISDN Central Office trunk is charged for both connections.

Attendant Break In

The attendant can override call forwarding on a destination DN by pressing the Break In key before dialing the destination DN. The attendant may not apply Camp-On to a telephone with Call Forward active.

Call Detail Recording on Redirected Incoming Call

The Call Detail Recording on Redirected Incoming Calls feature does not affect how these features operate; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Page Network Wide

PAGENET does not block a station set from being programmed to Call Forward All Calls to an external Paging trunk. At call termination time, calls that are forwarded to an external PAGENET uncontrolled trunk are not blocked. However, calls forwarded to an external PAGENET controlled trunk are given access denied intercept treatment at the Paging node.

Call Forward and Busy Status

Call Forward All Calls must be assigned to Party A's telephone to enable the Call Forward Status function, which allows party B to monitor and alter the Call Forward state of party A's telephone.

Call Forward Destination Deactivation

If a user's call forwarded Directory Number (DN) is defined as DN of Set B and set A dials the CFW FFC to activate call forward, then Set A gets forwarded to Set B. Set B can deactivate CFW on set A by dialing the CFDD deactivation FFC.

Call Forward Save

The Call Forward status of each telephone can be saved as part of the data dump routine and reinstated following a SYSLOAD operation.

Call Redirection by Time of Day

Call Forward All Calls takes precedence over Call Redirection by Time of Day.

Call Waiting

Call Waiting Redirection

Call Forward All Calls has precedence over the Call Waiting and Call Waiting Redirection feature.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

DPNSS1 Diversion

The Call Forward All Types features on unanswered calls are activated in the following order: Call Forward All Calls, Message Waiting, Call Forward No Answer, Slow Answer Recall. For busy sets the order is: Call Forward All Calls, Hunting, Calling Waiting/Camp On, Message Waiting Busy Forward, Call Forward Busy.

Enhanced Flexible Feature Codes - Customer Call Forward

When the Customer Call Forward (CCFW) feature is active the Call Forward All Calls (CFWAC) feature cannot be activated by Flexible Feature Code, but can be activated by SPRE. When CFWAC is active, CCFW cannot be activated.

CCFW can be deactivated by deactivating CFWAC. CFWAC can only be deactivated by the CCFD FFC if the current CFW DN is the same as the current CCFW DN.

Enhanced Flexible Feature - Outgoing Call Barring

When a set with Outgoing Call Barring active activates Call Forward All Calls) CFWAC with a new CFW DN, the CFW DN is tested against the current barring level. If the DN is not allowed to be dialed, it can also not be used as a Call Forward DN. This is to prevent a set from forwarding to a barred DN and then dialing its own DN to bypass the restrictions.

Flexible Feature Codes (FFCs)

When an FFC is configured for a customer, #1 automatically becomes the FFC DN for both Call Forward Activate (CFWA) and Call Forward Deactivate (CFWD). When the same DN is used for both CFWA and CFWD, FFC toggles the call forward activated/deactivated state of the telephone. When call forward is activated for a telephone, entering #1 automatically deactivates call forward, no matter what follows #1. When call forward is deactivated for a telephone, the result of entering #1 depends on what follows #1:

- If the telephone goes on hook immediately, Call Forward is activated for the telephone to its previous Call Forward number.

- If a valid DN is entered after #1, Call Forward is activated for the telephone to that valid DN.
- If an invalid DN is entered after #1, Call Forward remains deactivated for the telephone.

Flexible Voice/Data Terminal Number

Voice calls directed to a dynamic voice/data Terminal Number are forwarded, if either of these features are enabled. Data calls, to a dynamic voice/data TN, are not forwarded.

ISDN QSIG Call Completion

When the Call Forward feature is activated on a local basis and an incoming Call Completion request is received, the Call Completion request is registered against the forwarded DN.

ISDN QSIG Name Display

When an incoming QSIG call, with name display presentation allowed Name Display, is forwarded locally, the calling party's name information is displayed on the forwarding set. With presentation restriction, the calling party's name information is not displayed to the destination set.

Multiple Appearance Redirection Prime

Multiple Appearance Redirection Prime (MARP) is supported. This affects how call redirection operation is defined. Refer to the MARP module in this document for details.

Paging

Calls that originate on a TIE trunk to a telephone that is redirected to a paging route are blocked.

Phantom Terminal Numbers (TNs)

Call Forward All Calls is used in conjunction with Remote Call Forward (RCFW) to redirect incoming calls from a phantom TN/DN to a valid DN.

Call Forward cannot be overridden on phantom TNs. Overflow tone occurs if an override is attempted.

Recorded Announcement for Calls Diverted to External Trunks (RANX)

If a call is forwarded to an outgoing external Central Office (CO) route with the RANX flag set, RANX is activated.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Ring Again on No Answer (RANA)

If an unanswered call is forwarded to another station by Call Forward All Calls, RANA is applied to the originally dialed station.

SPRE

SPRE access codes cannot be used as CFW DN's. If an attempt is made to program an SPRE access code as a CFW DN, the overflow tone is given at the time of CFW activation.

Station Camp-On

Call Forward takes precedence over Camp-On.

Trunk Access Codes

An option is provided in LD 15 to allow or disallow telephones to program Call Forward All Calls to a Trunk Access Code. See Call Forward External Deny.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Internal Call Forward requires the 500 Set Dial Access to Features (SS5) package 73 for analog (500/2500 type) telephones, and the Flexible Feature Codes (FFC) package 139. Call Forward Reminder Tone is packaged with the Call Forward All Calls feature.

Feature Implementation

On an analog (500/2500 type) type telephone, the user accesses the Call Forward All Calls and Internal Call Forward features by dialing either the SPRE plus the feature code, or the appropriate Flexible Feature Codes (FFCs). On a digital telephone, the user accesses each feature via its feature key.

Activating the features requires service changes to LDs 15, 10/11, and 57.

LD 15 – Define Class of Service for Call Forward All Calls.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB RDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(CFO), CFF	(CFO) = Calling party Class of Service is active during Call Forward All Calls. CFF = Forwarding party Class of Service is active during Call Forward All Calls.
	(PVCA), PVCD	Prevention of reciprocal Call Forward (allowed) or denied.
- CFTA	(NO), YES	(Deny) allow telephones to Call Forward All Calls to a Trunk Access Code.
- OPT	(CFRD), CFRA	Call Forward Reminder Tone (denied) allowed for PBX telephones.

Note: In LD 56 the XCT Tone Code (XCAD) default value is set to 0. If the XCAD prompt is not changed in LD 56, an Analog 500-type set will not receive Call Forward Reminder Tone (CFRT) even if it has been enabled in LD 15 (OPT = CRFA).

LD 10 – Add/change Call Forward All Calls and Internal Call Forward for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
FTR	CFW xx yyyy...y	Allow Call Forward All Calls, where: xx = maximum number of digits in the CFW DN. Valid entries are any integer in the range of (4)-31. yyyy = number where calls are forwarded. Note: YYYY cannot be entered from the maintenance terminal. When the telephone information is printed in LD 20, yyyy shows the call forward number.
FTR	ICF xx	Allow Internal Call Forward, where: xx = maximum number of digits in the Forward DN. Valid entries are any integer in the range of (4)-31.

LD 11 – Add/change Call Forward All Calls and Internal Call Forward for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx CFW yy zzzz...z	Define Call Forward All Calls, where: xx = key number; M2317 must use key 22 yy = maximum number of digits in the CFW DN. Valid entries for M2317 and M3000 sets are any integer in the range of (4)-23. For all other Meridian 1 proprietary type sets, valid entries are any integer in the range of (4)-31. zzzz = number where calls are forwarded.
KEY	xx ICF yy zzzz	Define Internal Call Forward, where: xx = key number yy = maximum number of digits in the Forward DN. Valid entries are any integer in the range of (4)-31. zzzz = number where calls are forwarded.

LD 57 – Add/change Flexible Feature Codes for Internal Call Forward.

Prompt	Response	Description
REQ	NEW, CHG, OUT	Add, change, or remove an FFC table.
TYPE	FFC	Flexible Feature Code.
CODE	ICFA ICFD ICFV	Access code for Internal CFW Activate. Access code for Internal CFW Deactivate. Access code for Internal CFW Verify.
ICFA	xxxx	Internal CFW Activate Code (ICFD and ICFA may share the same code).
ICFD	xxxx	Internal CFW Deactivate Code (ICFD and ICFA may share the same code).
ICFV	xxxx	Internal CFW Verify Code.

Feature operation

To forward all calls from Meridian 1 proprietary telephone:

- 1** Press **Forward**.
- 2** Dial the number where calls are to be forwarded.
- 3** Press **Forward**.

To forward internal calls only from a Meridian 1 proprietary telephone:

- 1** Press **Internal Call Forward**.
- 2** Dial the number where calls are to be forwarded.
- 3** Press **Internal Call Forward**.

To cancel Call Forward All Calls:

- Press **Forward**.

To cancel Internal Call Forward:

- Press **Internal Call Forward**.

To forward calls from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE 74
 or lift the handset and dial #1 (2500 telephone)
 or lift the handset and dial the Call Forward Allowed FFC.
- 2 Dial the number where calls are to be forwarded.
- 3 Hang up.

Note: If you deactivate Call Forward, then reactivate without changing the number, calls will be forwarded to the previously established CFW DN.

To forward internal calls from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE 9914
 or lift the handset and dial the Internal Call Forward FFC.
- 2 Dial the number where calls are to be forwarded.
- 3 Hang up.

To cancel Call Forward All Calls:

- Lift the handset and dial SPRE 74
 or lift the handset and dial #1 (2500 telephone)
 or lift the handset and dial the Call Forward Deny FFC.

To cancel Internal Call Forward:

- Lift the handset and dial SPRE 9914
 or lift the handset and dial the Internal Call Forward Deny FFC.

Call Forward and Busy Status

The Call Forward and Busy Status feature was designed for an environment where party A forwards calls to party B for screening.

When equipped with a Busy/Forward Status (BFS) key-lamp or key-Liquid Crystal Display (LCD) pair, party B can perform the following:

- monitor, activate, or deactivate Call Forward for party A
- override Call Forward of party A, in order to place a call to party A, and
- determine whether party A is busy on a call.

The BFS key-lamp or key-LCD pair serves a dual purpose. The Busy Status function indicates to party B, via lamp or LCD state, whether party A is busy or not. The Call Forward Status function allows party B to monitor and alter the Call Forward state of party A. Therefore, the BFS lamp or LCD state of party B may indicate that party A is in any one of the following four possible states:

- Call Forward activated and not busy
- Call Forward activated and busy
- Call Forward deactivated and not busy, or
- Call Forward deactivated and busy.

The BFS key also acts as an Autodial (ADL) key. To use the BFS key as an ADL key to call party A, party B goes off-hook and presses the BFS key for party A.

Busy Status

The Busy Status portion of the feature indicates if party A is busy for any of the following reasons:

- call active on a Directory Number (DN) key (SCR, SCN, MCR, or MCN)
- has Make Set Busy (MSB) activated
- has Do Not Disturb (DND) activated
- call active on a Group Call (GRC) key
- call active on a Private-line non-ringing (PVN) or Private-line Ringing (PVR) key
- party A ringing
- if party A is a Meridian 1 proprietary -type set and has call on Hold, or
- if party A is a analog-type (500/2500) set and has a call on permanent Hold.

Call Forward Status

The Call Forward portion allows party B to monitor and alter the Call Forward state of party A. Party A may be either an analog-type or Meridian 1 proprietary-type set and must have Call Forward All Calls equipped. The Call Forward and Busy Status feature introduces a modification to the Call Forward All Calls feature functionality. The modification is activated or deactivated on a customer-wide basis by the response to OPT in LD 15. The OPT responses are “FKD” (Forward Key Denied) and the default setting “FKA” (Forward Key Allowed).

Operating parameters

Party B must be using a Meridian 1 proprietary (SL-1, M2000-series or Meridian Modular) telephone. Party A may have an SL-1, M1000-series, M2000-series, M3000, Meridian Modular or 500/2500-type telephone, with Call Forward All Calls (CFAC) equipped. The operating parameters are the same as for CFAC.

A station may be monitored by a maximum of 16 other stations using the BFS key.

The monitored and monitoring stations must all belong to the same customer.

Feature interactions

Attendant and Network-Wide Remote Call Forward

When the call forward status of a BFS station is changed from a telephone or attendant-based Remote Call Forward feature, the BFS lamp(s) associated with that station are updated accordingly.

Autodial

Party A can use the BFS key as an Autodial key to dial party B.

Call Forward All Calls

To enable the Call Forward Status function, Call Forward All Calls must be assigned to party A's telephone.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be in tandem to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Phantom Terminal Numbers (TNs)

Attempting to define a BFS key for a phantom TN results in an error message at the beginning of the phantom loop.

Feature packaging

Call Forward and Busy Status is included in base system software.

Feature implementation

LD 15 – Respond to the OPT prompt with either FKA, the default, (Forward Key Allowed), or FKD (Forward Key Denied) to select the Call Forward All Calls mode of operation.

Prompt	Response	Description
REQ	CHG, NEW	Change, or Add.
TYPE	CDB RDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
...		
NCOS	...	
- OPT	(FKA), FKD	Forward Key (Allowed) Denied — determines whether Call Forward keys on user sets for this customer are operational.

LD 11 – For each telephone set to be given a Busy/Forward Status (BFS) key, respond to the KEY prompt with 0-69 BFS lll s cc uu where 0-69 is the key number and lll s cc uu is the TN of the monitored telephone set.

Prompt	Response	Description
REQ	CHG, NEW	Change, or Add.
TYPE	aaaa	Telephone type where: aaaa = 2006, 2008, 2216, or 2616.
...		
LANG	...	
KEY	0-69 BFS lll s cc uu	Key number (0-69), Busy/Forward Status (BFS), Terminal Number (TN) of set to be monitored (lll s cc uu).
...		

LD 20 – This overlay is modified to print the new BFS key type and related information.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	xxxx	Type of data block.
TN	...	

LD 21 – This overlay is modified to include the FKA or FKD setting as part of the OPT setting printout.

Prompt	Response	Description
REQ	PRT	Request: Print data block.
TYPE	CDB	Type of data block: Customer Data Block.
CUST	0	Customer number.

Feature operation

Call Forward Status

With FKA, the default, selected party A's Call Forward (CFW) key-lamp or key-LCD pair operation is unaffected and depressing party B's BFS key will result in one of the following:

- if party A does not currently have Call Forward activated, party A has Call Forward activated to party B's DN and party A's CFW lamp or LCD is activated
- if party A already has Call Forward activated to party B's DN, party A has Call Forward deactivated and party A's CFW lamp or LCD is deactivated, or
- if party A already has Call Forward activated to a DN other than party B's, Call Forward is left as is.

With FKD selected party A's CFW key-lamp or key-LCD pair operation is modified so that the pair is usable as an indicator only, the key is disabled, and depressing party B's BFS key will result in one of the following:

- if party A has Call Forward active to the DN of a BFS key equipped set other than party B, Call Forward is left as is
- if party A has Call Forward active to a remote DN and Call Forward was activated by a remote FFC, the existing Call Forward DN is overridden and all new calls are forwarded to party B's DN
- if party A has Call Forward active to party B's DN, party A's Call Forward is deactivated and party A's CFW lamp or LCD is deactivated, or
- if party A does not have Call Forward active, Call Forward is activated to party B's DN and party A's CFW lamp or LCD is activated.

BFS lamp or LCD states

Party B's BFS lamp or LCD reflects the status of party A's set in terms of both the Busy or Idle and the Call Forward states. The following table gives the possible BFS lamp or LCD states for the various states party A may be in:

Party A's set	Party A's Call Forward	
	Deactivated	Activated
Idle	Dark	Wink = Fast Flash
Busy	Lit	Flash

Where:

- Dark – indicates lamp or LCD is off.
- Wink – indicates lamp or LCD is winking at 60 impulses per minute (ipm) (0.875 seconds on, 0.125 seconds off).P402402
- Lit – indicates lamp or LCD is on
- Flash – indicates lamp or LCD is flashing at 30 ipm (0.5 seconds on, 0.5 seconds off).

Call Forward Busy

Call Forward Busy (CFB) automatically routes incoming Direct Inward Dialing (DID) calls to the Attendant Console when a telephone is busy. This capability is allowed or denied in the Class of Service (FBA/FBD) of the telephone.

Operating parameters

On incoming DID calls, Hunting takes precedence, followed by Call Waiting, then Call Forward Busy. In busy situations, the call hunts if the telephone has Hunting specified.

Feature interactions

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how these features operate; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Forward All Calls

Call Forward All Calls takes precedence over Call Forward Busy.

Call Waiting for Meridian 1 proprietary telephones

If Class of Service allows CFB and Call Waiting Allowed, and the telephone has a Call Waiting key, calls do not forward to the attendant when the telephone is busy and another call is waiting.

Call Waiting for analog (500/2500 type) telephones

If a telephone has CFB and Call Waiting Allowed Class of Service, calls are forwarded to the attendant when the telephone is busy and has another call waiting.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Dial Access to Group Calls

Call Forward Busy cannot be applied to a Group Call.

Flexible Voice/Data Terminal Number

Voice calls directed to a call processing busy dynamic voice/data TN are redirected via Message Waiting Forward Busy or Call Forward Busy provided these features are configured for the TN. Data calls to dynamic voice/data TNs are not redirected.

Hunting

When a telephone is busy, an incoming call hunts only if Hunting is allowed for that telephone. If all the steps in the hunt group are busy, and Call Waiting is not allowed, the call forwards to the Attendant Console.

Night Service

When the system is in Night Service, DID calls forwarded by Call Forward Busy are routed to the specified night number. If the night telephone is busy, subsequent calls receive busy tone.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Station Camp-On

For DID calls only, Call Forward Busy takes precedence over Camp-On.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward Busy is included in base system software.

Feature implementation

LD 15 – Add/change a Call Forward Busy Incoming Call Indicator (ICI) on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- ICI	xx CFB	Add a Call Forward Busy ICI key; xx = 0-19.

LD 10 – Allow/deny Call Forward Busy on an Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(FBD), FBA	(Deny) allow Call Forward Busy.

LD 11 – Allow/deny Call Forward Busy on Meridian 1 proprietary digital telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(FBD), FBA	(Deny) allow Call Forward Busy.

Feature operation

No specific operating procedures are required to use this feature.

Call Forward by Call Type

Call Forward by Call Type (CFCT) routes calls receiving a no answer or busy signal to separately defined DN's based on the type of incoming call. The two types of incoming calls are internal and external.

An internal call is defined as a station-to-station call, a Direct Inward System Access (DISA) call, or an incoming call over a trunk route class marked as internal. An external call is an incoming call over a trunk route class marked as external. The trunk route data block (LD 16) allows routes to be defined as internal or external for this feature.

Four options are available at the customer level for Call Forward No Answer: Flexible Call Forward No Answer DN (FDN), Attendant Recall (ATT), Call Forward denied for all telephones (NO), and Hunting (HNT). Call Forward by Call Type (CFCT) is enabled only when the FDN and HNT options are chosen. If Call Forward by Call Type (CFCT) is not activated, previous functionality is retained.

In LD 15 Call Forward No Answer is defined by FNAT for external non-DID calls and by FNAL for internal calls. FNAD continues to define Call Forward No Answer for Direct Inward Dialing (DID) trunk calls.

CFCT is allowed or denied for each telephone in LD 10 or LD 11 with Class of Service (CFTA/CFTD). If CFCT is allowed (CFTA), the forwarding destination is also defined in LD 10 or LD 11.

Once enabled, CFCT requires no intervention. How the system initiates Call Forward by Call Type is described below.

When a call is presented to a telephone, the telephone is checked for the appropriate Class of Service (Hunting Allowed [HTA], Call Forward No Answer [FNA], CFTA). The incoming call is then checked to determine if it is a telephone, DISA, or trunk call. If it is a trunk call, the trunk route is checked to determine whether the call should be treated as an internal or external call. After these checks, internal calls are forwarded to the FDN or Hunt DN of the telephone. External calls are forwarded to the External Flexible DN (EFD) or External Hunt (EHT) DN of the telephone.

The order in which the system handles no answer and busy calls is an important consideration when implementing this feature. The order of precedence is listed below.

Calls to telephones that do not answer:

- Call Forward All Calls
- Message Waiting
- Call Forward No Answer, and
- Attendant Recall.

Calls to busy telephones:

- Call Forward All Calls
- Hunting
- Call Waiting or Camp-On
- Message Waiting Forward Busy, and
- Call Forward Busy.

Operating parameters

Attendant Administration does not support the entry of the new EFD and EHT Class of Service required for Call Forward by Call Type.

The following trunk routes can be defined as internal or external call types for CFCT: CO, DID, FX, ATVN, CCA, TIE, WATS, and CSA.

Incoming DISA calls are always treated as internal calls irrespective of the trunk route class mark defined for the incoming trunk.

If an incoming call has been modified by Call Forward All Calls or Hunting, the Class of Service and forwarding DN are obtained from the dialed DN. This applies when Call Forward No Answer specified at the customer level is HNT or FDN.

Feature interactions

Attendant

An attendant-extended call is classified internal or external by the originating telephone or class mark of the trunk type. This is the case whether or not the attendant has released before forwarding occurs.

Automatic Timed Recall

Calls eligible for Flexible Call Forward No Answer treatment, and handled by Call Forward by Call Type, use the Call Forward No Answer timer in the Customer Data Block as the recall timer for attendant extended calls. Irrespective of the relative timeout for Automatic Timed Recall, the ringing continues as long as allowed by the Call Forward No Answer Timer.

Call Forward All Calls

If a call is unanswered at the forwarded DN, the telephone that has Call Forward All Calls activated is checked for the Class of Service and the call forward DN. If a chain of call forwarding occurs, the Class of Service and the forward DN for Call Forward No Answer are obtained from the first telephone in the chain. This applies when FDN and HNT have been specified for Call Forward No Answer at the customer level.

Call Forward, Break-In and Hunt Internal or External Network Wide

If the Internal/External definition in LD 15 is set to YES, a call is treated as internal or external on a network wide basis.

Call Forward No Answer

The sequence for forwarding unanswered calls is Call Forward All Calls, Message Waiting, Call Forward No Answer, then Attendant Recall (if the call is attendant-extended). The same sequence is used when Call Forward by Call Type is active for the customer.

Call Forward Save

The Call Forward status of each telephone can be saved as part of the data dump routine and reinstated following a SYSLOAD operation.

Call Redirection by Time of Day

Call Forward by Call Type (CFCT) takes precedence over Call Redirection by Time of Day.

If Call Forward by Call Type (CFCT) is enabled with Call Forward No Answer (CFNA) and Call Redirection by Time of Day (CRTOD), unanswered internal calls receiving CFNA are routed to the Flexible CFNA DN, Hunt DN, Alternate Flexible CFNA DN or Alternate Hunt DNs. External calls are routed in the same manner.

Call Transfer

Network Call Transfer

Calls modified by Call Transfer and Network Call Transfer receive CFCT treatment. If party A (telephone or trunk) calls party B, and B transfers to party C, the forwarding DN and Class of Service are obtained from party C.

Call Waiting Redirection

If Call Forward and Hunt by Call Type (CFCT) is enabled with Call Forward No Answer and Call Waiting Redirection, “no answer” internal calls receiving Call Waiting treatment are routed for CFNA treatment to the Flexible CFNA DN (FDN) or Hunt DN, and “no answer” external calls are routed for CFNA treatment to the External Flexible CFNA DN (EFD) or External Hunt DN (EHT).

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Conference

Calls modified by Conference receive CFCT treatment for the conferenced telephone. If party A calls party B, and B tries to conference in party C, the forwarding DN and Class of Service are that of C. For example, Joan and Bob are in conversation, and they try to conference in Mack. Mack is not at his desk, so the attempted conference call is sent to the destination associated with Mack's telephone.

Direct Inward Dialing (DID)

Eligibility of a DID call for Call Forward by Call Type is determined by allowing or denying the type of call in the Customer Data Block (FNAD prompt). The decision to treat a DID call as internal or external is made on a trunk route basis.

Message Center

Message Center uses the Flexible Call Forward No Answer DN (FDN) of the called telephone to route no answer calls. If CFCT is enabled, unanswered internal calls use the FDN to route a call. Unanswered external calls use the External Flexible DN (EFD) to route a call.

Multiple Appearance Directory Numbers (MADNs)

Call redirection parameters like Call Forward No Answer are derived from the TN data block of the prime appearance of the called MADN. If there is more than one prime appearance, the parameters are selected from the last TN in the DN block.

If more than one prime appearance of a MADN exists, the following information must be considered prior to configuring call redirection parameters for MADNs.

The DN Block organizes MADN information in numerical TN order. The TN with the highest numerical value (000-0-06-03) is placed at the beginning of the list. The list then continues in descending order with the lowest numerical TN (000-0-03-01) at the end of the list. Service change activity affects the organization of the DN list as described in the following paragraphs.

- If a telephone undergoes Service Change, its TN is moved to the beginning of the DN list, irrespective of the numerical value. This telephone remains at the beginning of the list until another service change or a SYSLOAD.
- If a DN appears on an analog (500/2500 type), and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A Service Change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A Service Change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list back to numerical TN order, with an analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Second Level Call Forward No Answer

After a DN is rung and Call Forward by Call Type is activated, a forwarded call is allowed Second Level Call Forward No Answer. This is based on the originating party's call type if the currently ringing telephone has Second Level Call Forward No Answer activated.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward by Call Type is included in base system software.

Feature implementation

LD 15 – Enable Call Forward by Call Type for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB RDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- FNAD	(HNT), ATT, NO, FDN	Treatment for incoming DID calls.
- FNAT	(HNT), ATT, NO, FDN	Treatment for incoming external calls.
- FNAL	(HNT), ATT, NO, FDN	Treatment for incoming internal calls.
- CFNA	1-(4)-15	Number of ringing cycles for CFNA.

LD 16 – Define a trunk route as internal or external for Call Forward by Call Type.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB	Customer Data Block.
CUST	0	Customer number.
ROUT	xxx	Route number.
RCLS	(EXT), INT	Route class marked as (external) or internal.

LD 10 – Enable Call Forward by Call Type for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
HUNT	xxxx	Hunt DN for internal calls.
CLS	(CFTD), CFTA	(Deny) allow Call Forward by Call Type Telephone. Must have Hunting (HTA) and Call Forward No Answer (FNA) allowed.
FTR	EFD xxxx EHT xxxx FDN xxxx	Flexible Call Forward No Answer DN for external calls. Hunt DN for external calls. Flexible Call Forward No Answer DN for internal calls.

LD 11 – Enable Call Forward by Call Type for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
FDN	xxxx	Flexible Call Forward No Answer DN for internal calls.
CLS	(CFTD), CFTA	(Deny) allow Call Forward by Call Type Telephone. Must have Hunting (HTA) and Call Forward No Answer (FNA) allowed.
EFD	xxxx	Flexible Call Forward No Answer DN for external calls.
HUNT	xxxx 000	Hunt DN for internal calls. Short Hunt for internal calls.
EHT	xxxx 000	Hunt DN for external calls. Short Hunt for external calls.
LHK	xx	Last hunt key number for internal and external calls

Feature operation

No specific operating procedures are required to use this feature.

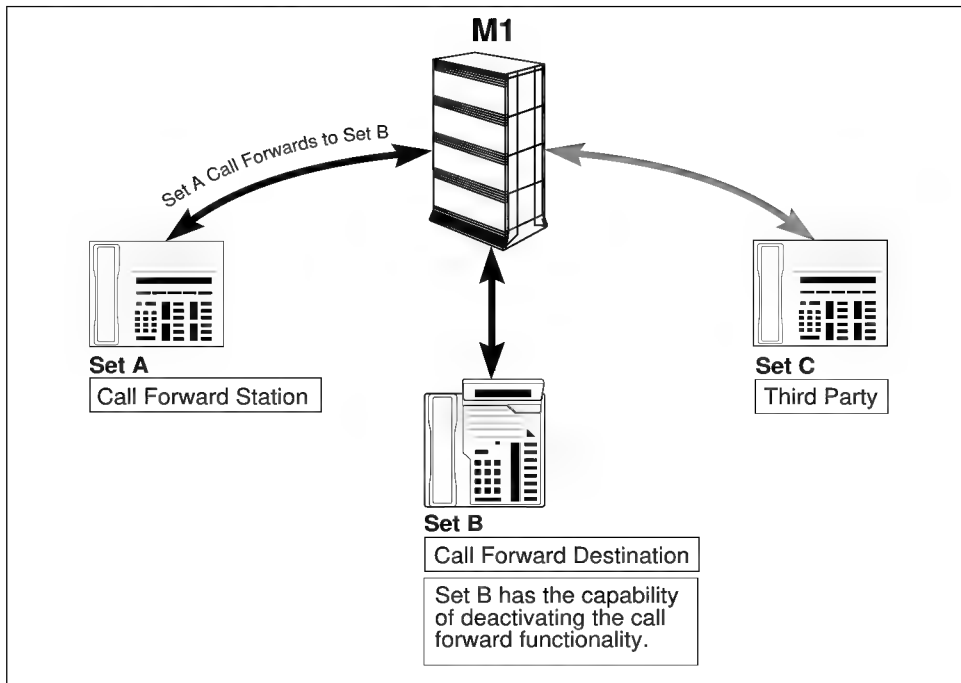
Call Forward Destination Deactivation

The existing Call Forward All Calls feature allows users to divert incoming calls from a telephone set. The activation/deactivation of Call Forward All Calls must occur from the originating telephone. In Release 15, Flexible Feature Codes and Remote Call Forward features were introduced. These features allowed users the extended flexibility to activate/deactivate Call Forward All Calls from within the Meridian 1 Option 11C Compact, or outside the local network using Direct Inward System Access.

Call Forward Destination Deactivation (CFDD) permits the call forwarded destination to deactivate the Call Forward All Calls functionality on the call forward station. As illustrated in [Figure 5](#), if set A is call forwarded to set B, then Set B can deactivate call forward.

This feature also allows a user to deactivate call forward by using Remote Call Forward deactivate Flexible Feature Code.

Figure 5
Call Forward Destination Deactivation Capability



Operating parameters

Call Forward Destination Deactivation is only supported on Call Forward. This feature is not supported on Internal Call Forward.

The existing Call Forward All Calls feature allows users to program a call forward station within a Meridian 1 Option 11C Compact switch or Public Switching Telephone Network. The Call Forward Destination Deactivation feature is designed for stand alone application only. Therefore, both the destination and originator must belong to the same customer on the Meridian 1 Option 11C Compact switch.

The call forwarded destination can deactivate the Call Forward All Calls functionality. However, the call forwarded destination cannot activate the call forward functionality from the originating set unless using the RCFA FFC.

CFDD can be activated on Meridian 1 proprietary, ISDN Basic Rate Interface and Analog (500/2500 type) sets by dialing the CFDD FFC. **An analog 500-type set with a dial pulse Class of Service cannot dial an octothorpe (#) as the end of dial delimiter. To activate CFDD, the call forwarded destination of an analog 500-type set has to dial the string of digits (as defined in LD 15) for the end of dial delimiter.**

If the string to indicate end of dialing (STRG prompt in LD 15) is defined, then analog (500/2500 type), 16-button DTMF, ISDN BRI and Meridian 1 proprietary sets must dial string digits as an end of dial delimiter to activate CFDD.

An Automatic Call Distribution (ACD) agent can only activate this feature from their personal Directory Number key. This feature cannot be activated on the ACD in calls key.

If the call forward station has a Prime DN and Secondary DN defined, then the Call Forward Destination Deactivation feature only considers the Prime DN to forward a call. Therefore, during the feature operation, the call forwarded destination's dialed DN of Set A is compared with the call forward station's Prime DN.

Feature interactions

Call Forward All Calls

If a user's call forwarded Directory Number (DN) is defined as DN of Set B and set A dials the CFW FFC to activate call forward, then Set A gets forwarded to Set B. Set B can deactivate CFW on set A by dialing the CFDD FFC.

Call Forward, Remote

Remote Call Forward (RCFW) and Call Forward Destination Deactivation (CFDD) provide the same functionality but are activated differently. CFDD does not require the call forward station's control password to deactivate the call forward functionality on the call forward station.

The call forwarded destination can use the Remote Call Forward deactivation FFC as well as CFDD to deactivate the Call Forward All Calls functionality on the call forward station.

Meridian Mail

Meridian Mail cannot deactivate the CFW functionality on the call forward station by using CFDD FFC.

Feature packaging

Call Forward Destination Deactivation (CFDD) requires Flexible Feature Code (FFC) package 139.

Feature implementation

The Call Forward All Calls feature is configured in LD 10 for Analog (500/2500 type) telephones and LD 11 for Meridian 1 proprietary telephones.

LD 57 – Configure Flexible Feature Codes for Call Forward Destination Deactivation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes data block.
CUST	0	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone. YES = confirmation tone is required.
CODE	DEAF	Deactivate Feature.
- DEAF	xxxx	Enter Flexible Feature Code on a set.
CODE	CFWA	Call Forward All Calls Activate Code.
- CFWA	xxxx	Enter Flexible Feature Code to activate.
CODE	CFWD	Call Forward All Calls Deactivation Code.
- CFWD	xxxx	Enter Flexible Feature Code to deactivate.
CODE	CFWV	Call Forward All Calls Verify Code.
- CFWV	xxxx	Enter Flexible Feature Code to verify.
CODE	CFDD	Call Forward All Calls Destination Deactivation Code.
- CFDD	xxxx	Enter Flexible Feature Code.

Feature operation

To enable the Call Forward Destination Deactivation feature, complete the following:

- 1 Go off-hook on the “call forward to” Directory Number of the call forwarded set and listen for dial tone.
- 2 Dial the CFDD FFC followed by DN of the call forward originator and end of dial delimiter.
- 3 Response provided.

The following responses are provided to the user of the call forwarded destination.

- 1 If originator’s call forward DN is the same as active DN of destination then the call forward feature on originator is deactivated. If the confirmation tone in LD 57 is enabled, then a confirmation tone or speech is provided to the destination set. Otherwise, silence is provided.
- 2 If the originator’s call forward DN does not match the active DN of the destination, then an overflow tone is provided to the destination set.
- 3 If the Call Forward All Calls functionality on the originator set is already deactivated, then an overflow tone is provided to the destination set.
- 4 If the originator does not have call forward all calls defined, then an overflow tone is provided to the destination set.

Deactivating Multiple Appearance DN

The Call Forward Destination Deactivation feature operation remains the same. However, if the call forward station is a Multiple Appearance DN (MADN) set, then the station’s Prime DN is considered to find the Call Forward All Calls functionality for deactivation.

If more than one MADN call forward stations have Call Forward All Calls defined and the call forward DN on one or more MADN call forward stations matches the active DN of Set B, then the call forward functionality on one or more MADN call forward stations is deactivated.

Any one of MADN call forwarded destination station is allowed to deactivate the call forward function on the call forward station by using the CFDD FFC.

Call Forward External Deny

This enhancement provides the option to restrict, on a per-telephone basis, the DN that can be programmed for Call Forward All Calls to internal DNs only. Internal DNs are defined as:

- DNs that terminate on an analog (500/2500 type) telephone
- DNs that terminate on a Meridian 1 proprietary telephone
- DNs that terminate on a data terminal defined in LD 10 or LD 11
- Attendant DNs or Centralized Attendant Service (CAS) local attendant DNs
- Listed DNs (LDNs), and
- Message Center DNs as defined in LD 23.

External DNs include (but are not limited to) trunk access codes, Coordinated Dialing Plan (CDP) steering codes, Basic and Network Alternate Route Selection (BARS/NARS) access codes, Electronic Switched Network (ESN) Location Codes, non-message center Automatic Call Distribution (ACD) numbers, Call Park numbers, and Direct Inward Services Access numbers.

When Call Forward External Deny is enabled for a telephone:

- A user trying to forward calls from an analog (500/2500 type) telephone to an external DN receives overflow tone. The telephone is not call forwarded.
- A user trying to forward calls from a Meridian 1 proprietary telephone to an external DN receives overflow tone and the lamp associated with the Call Forward key of the telephone flashes. The telephone is not call forwarded.
- A user trying to forward calls from a Meridian 1 digital or a display telephone to an external DN receives overflow tone. The telephone is not call forwarded and one of the following messages is displayed:

Release and try again (M2317 telephones)

Release, check, and try again (M3000 telephones)

- A user trying to forward calls from a data module to an external DN does not receive overflow tone. Calls are not forwarded and one of the following messages is displayed:

Invalid data forward number (M2317 telephones)

Data calls not forwarded (M3000 telephones)

Operating parameters

External DNs cannot be used with Call Forward All Calls if Call Forward External Deny is enabled for the telephone.

Both ESN access codes and CDP steering codes are considered external DNs, and cannot be used as a Call Forward All Calls DN if Call Forward External is denied for the telephone.

The number of digits specified in LD 10 or LD 11 for the Call Forward DN must be equal to or greater than the number of digits of any other internal DN.

Attendant Administration cannot change Call Forward External Deny Class of Service.

Feature interactions

Automatic Call Distribution (ACD)

If Call Forward External Deny (CFXD) is enabled, Call Forward to an ACD DN is allowed only if the ACD DN is a message center.

Call Forward All Calls

This feature overrides other Call Forward All Calls parameters. For example, if Call Forward to Trunk Access Code (CFTA) is allowed for the customer, but Call Forward External Deny (CFXD) is enabled for the telephone, CFXD takes precedence and call forwarding to a trunk access code is denied.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be in tandem to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e., at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Network Call Forward

Call Forward External Deny restricts a telephone from being forwarded unconditionally to a number that is not on the home switch. Therefore, Call Forward External Deny and the Integrated Services Digital Network Primary Rate Interface (ISDN PRI) feature Network Call Forward are mutually exclusive.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward External Deny is included in base system software.

Feature implementation

LD 10 – Allow/deny Call Forward External Deny for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 500, or 2500.
TN	I s c u	Terminal Number.
CLS	CFXA	Allow Call Forward to an external DN CFXD = Deny Call Forward to an external DN (default).

LD 11 – Allow/deny Call Forward External Deny for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	I s c u	Terminal Number.
CLS	CFXA	Allow Call Forward to an external DN. CFXD = Deny Call Forward to an external DN (default).

Feature operation

No specific operating procedures are required to use this feature.

Call Forward/Hunt Override Via Flexible Feature Code

Call Forward Override provides all telephone users (having a specific Class of Service) and attendants with the ability to override Intercept Computer Call Forward (ICP-CFW), Call Forward All Calls, Call Forward No Answer, Hunting and Make Set Busy by entering a Flexible Feature Code. In order to use this feature, the originating set must have Call Forward Hunt Allowed (CFHA) Class of Service. When this feature is enabled if override is attempted, and the called party is idle, the set is rung regardless of any diversion. If the dialed set is busy and has Hunt active, the calling party will terminate on the wanted set and receive a busy indication. Sets without Call Forward/Hunt Override denied (CFHD) Class of Service will not be able to use the Call Forward/Hunt Override (CFHO) Via Flexible Feature Code (FFC) feature.

Call Forward/Hunt Override Via FFC works in network environments with Meridian 1 Option 11C Compact nodes and Meridian 1 Customer Defined Network (MCDN) links.

Operating parameters

The Call Forward/Hunt Override FFC can only be used in predial mode from a set (i.e., it has to be dialed before dialing the DN that has Call Forward All Calls, Intercept Call Forward, Call Forward No Answer, Internal Call Forward, Hunt, or Make Set Busy active).

The Call Forward/Hunt Override FFC can only be dialed from its own node (i.e., it has to be dialed before any trunk access code).

On an ABCD set the Call Forward/Hunt Override FFC can only be configured as a predial FFC (ABCD sets are a type of German telephone).

Call Forward/Hunt Override FFC can only be used against extensions with one of the following type: HOT/MCN/MCR/SCN/SCR/Basic Rate Interface (BRI) DNs and PBX sets.

It is not possible for BRI extensions to dial a Call/Forward Hunt Override FFC.

The Call Forward/Hunt Override via FFC feature can only be used in standalone and MCDN environments. If no MCDN links are involved, no information about Call Forward/Hunt Override will be passed on to other nodes.

To get the functionality of Call Forward/Hunt Override Via FFC in an MCDN environment these enhancements must be integrated in the originating node, terminating node and any intermediate nodes.

Feature interactions

Attendant Blocking of DN

Using Call Forward/Hunt Override FFC after activation of ABDN is not allowed. Any attempt will be canceled and overflow tone will be returned.

Automatic Call Distribution (ACD)

ACD DNs are not overridden by Call Forward/Hunt Override Via FFC. Any attempt will be canceled and access denied treatment will be returned.

Individual DNs on an ACD set are overridden by Call Forward/Hunt Override Via FFC with the same limitations as for other sets.

Barge-in Busy Verify Break-in

Using Call Forward/Hunt Override Via FFC after activation of Barge-in, Busy Verify or Break-in is not allowed. Attempts will be canceled and overflow tone will be returned.

Using post-dial Break-in after dialing the Call Forward/Hunt Override FFC is possible after encountering a busy set, if Break-in is enabled.

Call Transfer

A set can activate Call Forward/Hunt Override Via FFC when initiating a transfer. If the transfer is completed while ringing, the Call Forward/Hunt Override will still be active and passed on to the transferred party.

Call Waiting

Call Waiting can be used even if the Call Forward/Hunt Override Via FFC feature has been activated. When a busy set with Call Waiting configured is encountered, it will terminate on Call Waiting.

Call Waiting Redirection

There is no interaction with the Call Waiting treatment component of the Call Waiting Redirection feature. However, Call Forward/Hunt Override via Flexible Feature Code does override CFNA, and thus the CFNA treatment given to unanswered Call Waiting calls by the Call Waiting Redirection feature is overridden by the CFHO feature. The incoming call will continue to be given Call Waiting treatment as if the Call Waiting Redirection feature is disabled when the CFHO feature is enabled by the calling party.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be put in tandem to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Camp-on

When a busy set is encountered, it is possible to Camp-on to the set, even if Call Forward/Hunt Override Via FFC has been activated.

Digital Private Network Signaling System One (DPNSS1)

DPNSS1 is only supported as an incoming trunk transferred to a MCDN environment using Call Forward/Hunt Override Via FFC.

Direct Inward System Access (DISA)

DISA is not supported. Any attempt to dial the Call Forward/Hunt Override FFC will be ignored and access denied treatment will be returned.

Do Not Disturb (DND)

This feature is not overridden by the Call Forward/Hunt Override Via FFC feature.

Flexible DN (FDN)**External Flexible DN (EFD)**

It is not possible to store the Call Forward/Hunt Override FFC as an FDN or EFD.

Group Call

It is not possible to use the Call Forward/Hunt Override FFC as a Group Call DN.

Group Hunt

Primary Line Directory Numbers (PLDNs) are not overridden by the Call Forward/Hunt Override Via FFC feature. Any attempt will be ignored and access denied treatment will result.

Hunt

This feature is overridden by the Call Forward/Hunt Override Via FFC feature. If a set activating Call Forward/Hunt Override Via FFC encounters a busy set no hunt steps will be performed; the call will terminate on the DN and busy tone will be returned.

Hunt DN/External Hunt (EHT) DN

It is not possible to store the Call Forward/Hunt Override FFC as a Hunt or EHT DN.

Idle Extension Notification (IEN)

This feature can be used even if the Call Forward/Hunt Override Via FFC feature is activated. When a busy set is encountered, it is possible to place an IEN request against the set.

Intercept Computer (ICP) Call Forward

This feature is overridden by the Call Forward/Hunt Override Via FFC feature. The Call Forward/Hunt Override FFC replaces the ICP Override FFC.

Last Number Redial

The Call Forward/Hunt Override FFC and the dialed DN are stored under Last Number Redial.

**Multiple Appearance Multiple Call Arrangements (MCAs)
Multiple Appearance Single Call Arrangements (SCAs)**

If the Call Forward/Hunt Override FFC is used against an MCA (MCR/MCN) or SCA (SCR/SCN) DN it will override any active forward and terminate on all idle appearances. If all appearances are busy, busy treatment will be returned.

Primary Line Directory Number (PLDN)

It is not possible to store the Call Forward/Hunt Override FFC as a PLDN.

Phantom DN

This feature is not overridden by the Call Forward/Hunt Override Via FFC feature. If Call Forward/Hunt Override Via FFC is used against a phantom TN the call will be canceled and overflow tone will be given.

Phantom TN

This feature is not overridden by the Call Forward/Hunt Override FFC. If a Call Forward/Hunt Override FFC is used against a Phantom TN, the call will be canceled and overflow will be given.

Priority Override

It is possible to use Priority Override after using the Call Forward/Hunt Override FFC and encountering a busy set.

Radio Paging

If Radio Paging is activated in a call where Call Forward/Hunt Override has been used, the Call Forward/Hunt Override feature will be deactivated.

Ring Again**Network Ring Again**

Using the Ring Again feature is possible after using the Call Forward/Hunt Override FFC and encountering a busy signal. Ring Again can be placed against the set for which the Call Forward/Hunt Override FFC was used (i.e., the set with CFW active should be rung by the Ring Again feature).

Ring Again No Answer**Network Ring Again No Answer**

Using the Ring Again No Answer feature is possible after using the Call Forward/Hunt Override FFC and encountering an idle set that does not answer. Ring Again No Answer can be placed against the set for which the Call Forward/Hunt Override FFC was used (i.e., the set should be rung by the Ring Again No Answer feature).

Single Digit Access (SDA)

It is not possible to store Call Forward/Hunt Override FFCs in an SDA list.

Semi-automatic Camp-on (SACP)

This feature can be used even if the Call Forward/Hunt Override Via FFC feature is activated. When encountering a busy set, it is possible to activate SACP, if it is applicable.

Speed Call

The Call Forward/Hunt Override FFC cannot be stored in a speed call list.

Feature packaging

In a standalone environment the Flexible Feature Codes (FFC) software package 139 must be provisioned to activate this feature.

For network environments, Network Attendant Service (NAS) package 159 must also be provisioned. Attendant Overflow Position (AOP) package 56 must be restricted, as it is mutually exclusive with Network Attendant Service.

Feature implementation

LD 57 – Define FFC for Call Forward/Hunt Override.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	FFC	Flexible Feature Code.
...		
CODE	CFHO	Call Forward/Hunt Override Via FFC.
CFHO	nnnn	Call Forward/Hunt Override FFC.

LD 10 – Set Class of Service for the Forward/Hunt Override Via FFC feature for analog (500/2500 type) sets.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	500	Type of telephone set.
...		
CLS	(CFHD), CFHA	Call Forward/Hunt Override Via FFC is (denied) or allowed.

LD 11 – Set Class of Service for the Forward/Hunt Override Via FFC feature for Meridian 1 proprietary sets.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	aaaa	Type of telephone set, where: aaaa = 2006, 2008, 2216, or 2616.
...		
CLS	(CFHD), CFHA	Call Forward/Hunt Override Via FFC is (denied) or allowed.

LD 18 – Configure ABCD key for the Forward/Hunt Override Via FFC feature.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	ABCD	Modifying 16-button DTMF.
...		
PRED	YES	Function table for pre-dial.
A	CFHO*FFC*	CFHO is assigned to key A.
B	CFHO*FFC*	CFHO is assigned to key B.
C	CFHO*FFC*	CFHO is assigned to key C.
D	CFHO*FFC*	CFHO is assigned to key D.

Feature operation

Standalone

To activate the Call Forward/Hunt Override feature, the user dials the FFC for Call Forward/Hunt Override and the DN of the wanted party. If the set is idle, the set is rung regardless of any diversion (e.g., Call Forward All Calls, Intercept Call Forward, Call Forward No Answer, or Hunt) or Make Set Busy on the set.

If the set(s) have displays, the display(s) are updated. If the display on the originating set is updated when the call is answered, the Call Forward/Hunt Override FFC will no longer be displayed.

If the dialed set is busy and Hunt is active, the calling party will terminate on the wanted set and will receive busy indication.

If the dialed set is idle, but does not answer within the defined number of ringing cycles for CFNA, the call is not forwarded (i.e., it continues to ring).

If the dialed set is busy, the attendant can activate Camp-on, if Camp-on is applicable. In addition, Ring Again can be placed against a set for which Call Forward/Hunt Override was used and a busy set was encountered.

Network

The user gets the same functionality in a Meridian 1 Customer Defined Network (MCDN) as in standalone environments. The Call Forward/Hunt Override information is transmitted from the originating node to the terminating node using the Network Attendant Service (NAS) feature.

Activation of the service is call dependent; network-wide Call Forward/Hunt Override is part of the NAS feature.

Call Forward, Internal Calls

The Internal Call Forward (Internal CFW) feature operates allows you to selectively forward only internal calls to the Internal CFW DN.

Internal CFW is activated/deactivated on a per-telephone basis and is user programmable when Internal CFW is activated. On a Meridian 1 proprietary telephone, the Internal CFW feature (ICF) key is the only access method. On an analog (500/2500 type) type telephone, Internal CFW can be accessed by either dialing SPRE and the Internal CFW feature code (9914), or by the appropriate Flexible Feature Codes (FFCs).

All internal calls terminating on the primary (or any single appearance) DN of an Internal CFW active telephone are automatically forwarded to the programmed Internal CFW DN (refer to the operating parameters section for information on primary and secondary, and single and multiple appearance DNs).

An internal call is defined by the Internal CFW feature as one of the following:

- an extension-to-extension call
- a Direct Inward System Access (DISA) call
- an attendant-originated call
- a conference call
- a Group Call feature initiated call
- an incoming trunk call over a trunk route classified as internal (LD 16 where RCLS = INT), and
- an incoming Integrated Services Digital Network (ISDN) trunk call using private numbering.

Non-internal calls are not affected by the Internal CFW feature.

Operating Parameters

Call Forward All Calls takes precedence over Internal CFW, but is not a prerequisite for the Internal CFW feature. For example, if a telephone is already CFW All Calls active, it will not be allowed to activate Internal CFW at the same time. Internal CFW can only be activated if CFW All Calls is explicitly deactivated.

Also, if Internal CFW is active when trying to activate CFW All Calls, Internal CFW will automatically be deactivated.

Internal CFW operation is consistent with the CFW All Calls feature. Therefore, when a Meridian 1 proprietary telephone activates Internal CFW, the following DNs will become Internal CFW activated:

- the primary DN (key 0), regardless of whether the DN is multiple appearance or not, and
- all secondary DNs that are single appearance.

Consequently, if all the appearances of a multiple appearance DN are on non-primary Meridian 1 proprietary telephone keys, calls to these DNs will never receive Internal CFW treatment.

When an analog (500/2500 type) telephone activates Internal CFW, regardless of whether the DN is multiple appearance or not, Internal CFW becomes activated.

Internal CFW supports only the voice line on digital telephones that have both voice and data options.

On 2317 and M3000 telephones, the CFW programming screen (invoked by pressing the CFW softkey), is not displayed when the ICF key is pressed. Instead, the screen displays the previously programmed ICF number.

If an Internal CFW call is rejected, a display message is given if the telephone is digital and has a digit display module (this display message is the same as that given to a failed CFW All Calls activation request). Otherwise, overflow tone is given.

Internal CFW is not maintained through a SYSLOAD.

Internal CFW is not supported on Basic Rate Interface (BRI) telephones.

Feature interactions

Attendant Administration

This feature does not support Internal CFW.

Attendant Busy Verify

When the attendant is using this feature to call a telephone that is Internal CFW active, the call will not receive Internal CFW treatment.

Attendant-Extended Calls

When the attendant extends a call on its SRC key to a telephone that is Internal CFW active, the call on the SRC key will only receive Internal CFW treatment if it is an internal call.

Attendant Night Service

When a call to the attendant is redirected to the Attendant Night DN that is defined on an Internal CFW active telephone, the call will only receive Internal CFW treatment if it is an internal call.

Attendant Overflow

If Attendant Overflow redirects an internal call to a telephone that is Internal CFW active, the call will remain in the attendant queue, and will not receive Internal CFW treatment.

Call Forward All Calls

Call Forward Reminder Tone

If Call Forward Reminder Tone Allowed (CFRA) is in effect, whenever an analog (500/2500 type) telephone with Internal CFW active goes off hook to originate a call, the telephone sounds the reminder tone. The reminder tone is either Call Forward Dial Tone (CFDT) or Call Forward/Message Waiting Dial Tone (CFMW).

If the customer option is set to Call Forward Reminder Tone Denied (CFRD), whenever an analog (500/2500 type) telephone with internal CFW active goes off hook to originate a call, the telephone sounds either the normal dial tone (DIAL) or the Message Waiting Dial Tone (MWDT).

Call Forward, Break-In and Hunt Internal or External Network Wide

If a treated call is a transfer call and the transferring call is on the treating node, the transferred party will be considered. However, when the transferring party is not on the treating node, the transferring party will determine the treatment given.

Call Redirection by Time of Day

Call Forward, Internal Calls takes precedence over Call Redirection by Time of Day.

Call Waiting

Call Waiting Redirection

Internal CFW takes precedence over Call Waiting.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Camp-On

Internal CFW takes precedence over Camp-On.

Do Not Disturb

Internal CFW takes precedence over Do Not Disturb.

Hunting

Internal CFW takes precedence over Hunting.

Flexible Voice/Data Terminal Number

Voice calls directed to a dynamic voice/data Terminal Number are forwarded, if this feature is enabled. Data calls, to a dynamic voice/data TN, are not forwarded.

Phantom Terminal Numbers (TNs)

Internal CFW cannot be enabled on a phantom TN.

Recorded Announcement for Calls Diverted to External Trunks (RANX)

The RANX feature supports call forward to an outgoing external Central Office (CO) trunk if the trunk has the RANX flag set and is located in a node with a RAN trunk.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Remote Call Forward

Remote CFW Activate (RCFA), Remote CFW Deactivate (RCFD), and Remote CFW Verify (RCFV) FFCs can be used only to access CFW All Calls; they cannot be used to access Internal CFW.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Internal CFW requires the following packages:

- Basic Call Processing (BASIC) package 1 (CFW package required but does not have to be enabled)
- 500 Set Dial Access to Features (SS5) package 73 for access to analog (500/2500 type) telephones, and
- Flexible Feature Codes (FFC) package 139 to implement FFC.

Feature Implementation

LD 10 – Add/change Internal CFW for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
FTR	ICF 4-(16)-23 XICF	Allow Internal CFW for the specified telephone and the maximum forward DN length. Remove Internal CFW from the telephone.

LD 11 – Add/change CFW Internal Calls for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
KEY	xx ICF 4-(16)-23 <nnnn> xx null	Define an Internal CFW feature key for the telephone. The command consists of: xx = key number. ICF = feature mnemonic. 4-23 = the maximum forward DN length. nnnn = forward DN. Remove function/feature from a key.

LD 57 – Add/change Internal CFW for analog (500/2500 type) telephones using FFC.

Prompt	Response	Description
REQ	NEW, CHG, OUT	Add, change, or remove.
TYPE	FFC	Flexible Feature Code.
CODE	ICFA ICFD ICFV	Access Code for Internal CFW Activate. Access Code for Internal CFW Deactivate. Access Code for Internal CFW Verify.
ICFA	xxxx	Internal CFW Activate code.
ICFD	xxxx	Internal CFW Deactivate code.
ICFV	xxxx	Internal CFW Verify code.

Feature operation

Meridian 1 proprietary telephone

To forward internal calls from a Meridian 1 proprietary telephone:

- 1** Press the ICF key.
- 2** Dial the number where calls are to be forwarded.
- 3** Press the ICF key.

To cancel Internal CFW from a Meridian 1 proprietary telephone:

— Press the ICF key.

Analog (500/2500 type) telephone

To forward internal calls from an analog (500/2500 type) telephone:

- 1** Lift the handset and dial SPRE 9914 (Internal CFW feature code)

— or —

Lift the handset and dial the Internal CFW Activate (ICFA) FFC.

- 2** Dial the number where calls are to be forwarded.

To cancel Internal CFW from an analog (500/2500 type) telephone:

— Lift the handset and dial SPRE 9914 (Internal CFW feature code)

-- or --

Lift the handset and dial the Internal CFW Deactivate (ICFD) FFC.

Call Forward No Answer/Flexible Call Forward No Answer

Call Forward No Answer automatically forwards unanswered calls to another DN. The customer can specify the number of rings (1 to 15) before the system invokes Call Forward No Answer. The default is four rings.

Four options are available at the customer level for Call Forward No Answer:

- deny for all telephones
- route all unanswered calls to the attendant
- route all unanswered calls to the Hunt number defined for the telephone, and
- route all unanswered calls to the Flexible Call Forward No Answer DN defined for the telephone.

Flexible Call Forward No Answer allows the customer to specify, on a per-telephone basis, where an unanswered call should be routed. This is independent of the Hunt number assigned to the telephone. This capability is implemented on a per-customer basis and can be specified for Direct Inward Dialing (DID) and non-DID call types. When activated, a call to a telephone that does not answer within the specified number of ring cycles is forwarded to the Flexible Call Forward No Answer DN (FDN) associated with that telephone.

The Flexible Call Forward No Answer operation applies only to individual DN calls of analog (500/2500 type) telephones, and not to Automatic Call Distribution (ACD) calls.

A call is forwarded under the following conditions:

- The Class of Service of the dialed telephone is Forward No Answer allowed.
- Flexible Call Forward No Answer is enabled at the customer level.
- The call has rung the specified number of times.
- The Call Forward No Answer DN (FDN) is valid and has been assigned.

System or telephone features such as Hunting and Call Forward All Calls may result in the presentation of a call to a telephone that is different from the dialed DN. In these cases, if the call is eligible for Flexible Call Forward No Answer, it is forwarded to the DN specified for the dialed DN, not the ringing DN.

When you use Multiple Appearance DNs (MADNs), call redirection is determined based on the Terminal Number (TN) order in your DN block. To determine the TN order, print the DN block from LD 20 or LD 22 (TYPE = DNB). When a call comes in to a MADN, the system begins a search to determine how the call will be handled. Using the TN list you printed, the system performs the following search, beginning at the bottom of the TN list and working up.

- 1** Search for the first Prime DN appearance of the MADN with Call Forward All Calls activated.
- 2** If there are no Prime DN appearances, the TN at the bottom of the list controls call redirection.

Note: The search does not necessarily determine the highest or lowest numerical TN.

Operating parameters

Calls are forwarded one step only. For Call Forward No Answer enhancements, refer to the Call Forward, Second Level module.

Incoming calls on private lines with the Restricted Call Modification option enabled are not forwarded.

Flexible Call Forward No Answer DN (FDN) can be assigned to telephones with Message Waiting Allowed Class of Service. This is irrespective of the telephone's Class of Service and how forward no answer is specified in the Customer Data Block. Message Center always uses the FDN associated with the telephone to route unanswered calls.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Forward No Answer are charged against the last set that answers the call and the controlling set releases.

Attendant Administration

Attendant Administration can assign and change a Flexible Call Forward No Answer DN with the function key on the Attendant Console.

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override the Call Forward No Answer feature. If the blocked DN of the set has the Call Forward No Answer feature active when the SACP key is pressed to ring the DN, the DN will ring until answered or disconnected. No Call Forward No Answer will be done for the Attendant Blocking of DN call.

Automatic Call Distribution

The Flexible Call Forward No Answer operation does not apply to Automatic Call Distribution (ACD) calls.

Automatic Timed Recall

Flexible Call Forward No Answer timing takes precedence over Automatic Timed Recall timing. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by Call Forward No Answer.

Call Forward All Calls

Suppose that party A calls party B, and party B has programmed Call Forward All Calls to party C. Flexible Call Forward No Answer will forward a No Answer call at party C to the FDN associated with party B, the dialed DN.

Call Page Network Wide

PAGENET does not block a station set from being programmed to Call Forward No Answer to an external Paging trunk. At call termination time, calls that are forwarded to an external PAGENET uncontrolled trunk are not blocked. However, calls forwarded to an external PAGENET controlled trunk are given access denied intercept treatment at the Paging node.

Call Redirection by Time of Day (CRTOD)

Call redirection parameters for Call Forward No Answer (CFNA) are obtained from the originally dialed Directory Number. When CRTOD is activated, unanswered calls given CRTOD treatment are forwarded with CFNA according to the time of day. No changes are made to the existing CFNA feature.

Call Waiting

If a call to a telephone gets CFNA treatment to another telephone that is busy, Call Waiting and Camp-On do not apply. The call will attempt to terminate on the original DN again.

Call Waiting Redirection

Per existing Call Forward No Answer feature operation, the call redirection parameters for CFNA are obtained from the originally dialed DN for redirected calls.

Existing Network CFNA treatment is applied to calls receiving Call Waiting treatment on sets with CFNA and the Call Waiting Redirection feature enabled if the Call Waiting call is not answered before the expiration of the CFNA timer and the CFNA DN is on another node.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be put in tandem to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Camp-On

When the Call Forward No Answer timer expires for a ringing camped-on call, the call is given Attendant Recall treatment instead of Call Forward No Answer treatment.

Dial Access to Group Calls

Call Forward No Answer cannot be applied to a Group Call.

Directory Number

An LDN ICI has a higher priority than a CFNA ICI. When a call is forwarded to an LDN via Flexible DN, the call is presented on an LDN ICI.

Directory Number Delayed Ringing

The Directory Number Delayed Ringing (DNDR) feature allows the SCN/MCN (non ringing keys) to actually ring after a definable period of time (DNDR prompt in LD 11). If the time before CFNA takes effect is less than the DNDR time for a particular set, CFNA will forward this call before any SCN/MCN keys can ring on this set. Note that CFNA is defined in the number of rings and DNDR is defined in seconds.

If the Forward DN set is busy or invalid when the call is forwarded, the call will return to the originally called set. However, the DNDR delay timer will be reapplied to the called set if DNDR is defined.

If a call is forwarded, as per existing operation, this call will be treated as a new incoming call to the forward DN. For example, if the forward DN has a DNDR value defined, a new timer will begin timing according to the forward DN's DNDR delay.

Electronic Lock Network Wide/Electronic Lock on Private Lines

For Call Forwarding, the COS and NCOS used for the forwarding call can be taken from either the forwarding set or from the forwarded set, depending on the option defined in the Customer Data Block.

For example, set B call forwards all calls to an external trunk. Set A calls set B. If OPT = CFF in LD 15 (Call Forward forwarded to party's COS and NCOS), the COS and NCOS of set B are used for forwarding the call to the trunk. If OPT = CFO (Call Forward originating party's COS and NCOS), the COS and NCOS of set A are used for forwarding the call to the trunk.

Meridian Mail Operator Revert

The Called Party ID can be passed along from the ACD Message Center when Operator Revert is activated. The attendant can now activate the Message Waiting key for the Called Party while active on the redirected call by pressing the Message Indicator key.

For example, Party A calls Party B, which Call Forward No Answers to Meridian Mail. Party A dials 0 and is transferred to a message center with "live" agents. The agent receiving the call sees information for Party B along with the information for Party A, the calling party.

Multi-Party Operations

If a call is mishandled during transfer, and the customer option for Ringing No Answer is anything other than Standard, the optional treatment has priority over Call Forward No Answer options.

Multiple Appearance Redirection Prime

Multiple Appearance Redirection Prime (MARP) is supported. This feature affects call redirection operation. Refer to the MARP module in this document for details.

- If a DN is assigned as a Prime DN on a telephone and as a secondary DN on one or more telephones, the DN list is still organized as described in the preceding paragraphs. If only one prime appearance of a DN exists, however, call redirection parameters are derived from the TN of the prime appearance telephone, even though it may not be at the end of the list. A prime appearance is always the first TN used when the system looks for call redirection instructions.

- If a DN appears on analog (500/2500 type), and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A service change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list back to numerical TN order with analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Night Service enhancements

Any call which has been presented to the Attendant Overflow Position cannot be removed from the console and requeued by pressing the Make Set Busy (MSB) key. The call will only be removed if the Attendant Forward No Answer feature is active, and the Attendant Forward No Answer Timer has timed out. In this case, the call is requeued and the Attendant Overflow Position is idled.

Recall to Same Attendant

If the attendant does not answer a call and the Attendant Forward No Answer feature is equipped, the console is forced into the Position Busy state and the call routed to the first available idle attendant.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Ring Again on No Answer (RANA)

If an unanswered call is forwarded to another station by Call Forward No Answer, RANA is applied to the originally dialed station.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward No Answer/Flexible Call Forward No Answer is included in base system software.

Feature implementation

LD 15 – Define Call Forward No Answer for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- ICI	xx CFN	Attendant Incoming Call Indicator for Call Forward No Answer, where: xx = key number (00-19).
TYPE	RDR	Gate opener.
- FNAD	(HNT) ATT FDN NO	Forward No Answer DID calls to the Hunt number. Forward No Answer DID calls to the attendant. Forward No Answer DID calls to the Flexible CFNA DN. No Answer DID calls are not forwarded.
- FNAT	(HNT) ATT FDN NO	Forward No Answer external calls to the Hunt number. Forward No Answer external calls to the attendant. Forward No Answer external calls to the Flexible CFNA DN. No answer external calls are not forwarded.
- FNAL	(HNT) ATT FDN NO	Forward No Answer local calls to the Hunt number. Forward No Answer local calls to the attendant. Forward No Answer local calls to the Flexible CFNA DN. No Answer local calls are not forwarded.
- CFNA	1-(4)-15	Number of ringing cycles before No Answer calls are forwarded (default is 4).

LD 10 – Add/change Flexible Call Forward No Answer for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(FND), FNA	(Deny) allow Call Forward No Answer.
FTR	FDN xxxx...x	Flexible Call Forward No Answer DN (if the DN Expansion package is equipped, the DN can have up to 13 digits).

LD 11 – Add/change Flexible Call Forward No Answer for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
FDN	xxx...x	Flexible Call Forward No Answer DN (if the DN expansion package is equipped, the DN can have up to seven digits).
CLS	(FND), FNA	(Deny) allow Call Forward No Answer.

LD 10 – Implement Call Forward No Answer to the Hunt DN on Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
HUNT	xxxx	Hunt DN where a No Answer call is to be routed (if the DN Expansion package is equipped, the DN can have up to 10 digits).
CLS	(FND), FNA	(Deny) allow CFNA.

LD 11 – Implement Call Forward No Answer to the Hunt DN on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(FND), FNA	(Deny) allow CFNA.
HUNT	xxxx	Hunt DN where a No Answer call is to be routed (if the DN Expansion package is equipped, the DN can have up to 10 digits).

Feature operation

No specific operating procedures are required to use this feature.

Call Forward No Answer, Second Level

Second Level Call Forward No Answer enhances Flexible Call Forward No Answer by forwarding unanswered calls twice. The following example best illustrates this enhancement.

Party A places a call to extension 5000, which does not answer. Extension 5000 has Call Forward No Answer (CFNA) allowed and extension 6000 defined as its CFNA number. The call forwards to extension 6000. This is the first level CFNA.

Extension 6000 also does not answer the call. This telephone has a Call Forward No Answer and Second Level Call Forward No Answer allowed Class of Service (FNA and SFA). As it has a CFNA number of 7000, it forwards there. This is the second level of Call Forward No Answer. Note that the forwarding DN is always obtained from the currently ringing telephone.

If extension 7000 does not answer the call, one of two things may occur:

- If the original call is a Direct Inward Dialing (DID) or internal call, the forwarded call continues to ring until answered or the calling party disconnects.
- If the original call is extended by the Attendant Console, Attendant Recall occurs.

Second Level Call Forward No Answer uses the same customer-level timer as Flexible Call Forward No Answer to determine the number of rings before forwarding a call.

Telephones with a message waiting allowed (MWA) Class of Service should have the Message Center DN defined as their FDN. Calls to these telephones forward to the Message Center and are not eligible for Second Level Call Forward No Answer.

Call Forward No Answer Second Level for Message Waiting Allowed Telephones enables an SFA Class of Service to be defined on telephones with a Message Waiting Allowed (MWA) Class of Service. Thus, a message waiting indication can be activated at the originally dialed DN for Second Level CFNA calls terminating at a message center.

Requirements at the dialed DN for first-level CFNA are as follows:

- Flexible Call Forward No Answer or Hunting is allowed at the customer level for the incoming call type (DID, non-DID, or internal).
- The telephone has an FNA Class of Service.
- The terminating call has rung for the number of rings specified for CFNA or DFNA in the Customer Data Block (LD 15).
- The forwarding DN (Flexible Call Forward No Answer DN [FDN], Coordinated Dialing Plan DN [CDP DN], External Flexible DN [EFD], Hunting [HNT], or External Hunt [EHT]) must be distinct from the ringing DN and be a valid number within the system.

Requirements at the originally called telephone DN for Second Level Call Forward No Answer are as follows:

- Flexible Call Forward No Answer or Hunting is allowed at the customer level for the incoming call type (DID, non-DID, or internal).
- The telephone has SFA and FNA Class of Service.
- Call Forward No Answer has occurred only once prior to ringing this telephone.
- The forwarding DN (FDN, EFD, Hunt, or EHT) must be distinct from the ringing DN and must be a valid number within the system.

The order of precedence for activation of first level Call Forward No Answer is as follows:

- Call Forward All Calls
- Message Waiting
- Call Forward No Answer, and
- Attendant Recall.

The order of precedence for activation of Second Level Call Forward No Answer is as follows:

- Call Forward All Calls
- Second Call Forward No Answer (CFNA calls only), and
- Attendant Recall.

Operating parameters

A maximum of two levels of Call Forward No Answer are allowed for an unanswered call.

Calls directed to an attendant or Automatic Call Distribution (ACD) Message Center cannot have Second Level Call Forward No Answer.

Attendant Administration cannot change the SFA/SFD Class of Service. Error messages are generated if changes made to the Forward No Answer or Hunt Class of Service conflict with the SFA/SFD Class of Service.

Feature interactions

Call Detail Recording on Redirected Incoming Calls

The Call Detail Recording on Redirected Incoming Calls feature does not affect how these features operate; however, it does provide information about the answering party in the CDR ID field if incoming calls have been redirected by any one of these features.

Call Forward All Calls

Second Level Call Forward No Answer uses the final (ringing) telephone in the chain to obtain Class of Service and forwarding DN information.

First level treatment operates in the following manner. Suppose that party A calls party B, and party B has programmed Call Forward All Calls to party C. Flexible Call Forward No Answer will forward a No Answer call at party C to the forwarding directory number associated with party B, the dialed DN.

Call Forward by Call Type (CFCT)

To implement CFCT for Second Level Call Forward No Answer eligible calls, the originating party's call type is checked. If it is internal, the call is forwarded to the Flexible Call Forward No Answer DN (FDN). If it is external, the call is forwarded to the External Flexible DN (EFD).

Call Forward No Answer

Second Level Call Forward No Answer applies to the Hunt and Flexible Call Forward No Answer options. This is implemented by defining the FNAD, FNAT, or FNAL prompts in LD 15 as FDN or HNT. If the attendant option is defined, an unanswered call goes to the attendant queue and is not eligible for Second Level Call Forward No Answer.

Note: The FNAN prompt is replaced by two new prompts, FNAT and FNAL.

Call Redirection by Time of Day (CRTOD)

Existing Second Level Call Forward No Answer allows unanswered calls to receive Call Forward No Answer treatment twice. CRTOD parameters are obtained from the last rung Directory Number. A maximum of two levels of CFNA is allowed for an unanswered call.

Call Waiting Redirection

The existing Second Level CFNA treatment is applicable to Call Waiting calls redirected by CFNA (first level) with the Call Waiting Redirection feature which are still not answered at the last rung DN.

Calling Party Privacy

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CCP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CCP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

Directory Number Delayed Ringing

The Directory Number Delayed Ringing (DNDR) feature allows the SCN/MCN (non ringing keys) to actually ring after a definable period of time (DNDR prompt in LD 11). If the time before CFNA takes effect is less than the DNDR time for a particular set, CFNA will forward this call before any SCN/MCN keys can ring on this set. Note that CFNA is defined in the number of rings and DNDR is defined in seconds.

If the Forward DN set is busy or invalid when the call is forwarded, the call will return to the originally called set. However, the DNDR delay timer will be reapplied to the called set if DNDR is defined.

If a call is forwarded, as per existing operation, this call will be treated as a new incoming call to the forward DN. For example, if the forward DN has a DNDR value defined, a new timer will begin timing according to the forward DN's DNDR delay.

**Distinctive
New Distinctive Ringing**

The ringing cadence for all telephones in a chain of call redirections remains the same as for the original DN called.

Flexible Call Forward No Answer

If Second Level Call Forward No Answer is disabled, Flexible Call Forward No Answer operates as described.

Hunting

A forwarded call may be modified by Hunting if the Call Forward No Answer DN is busy. This call is eligible for Second Level Call Forward No Answer if the SFA Class of Service is allowed and a Call Forward No Answer DN has been defined for the last rung DN.

If Group Hunting is active, Second Level CFNA is not applied.

Message Centers

There are three types of Message Centers:

- Automatic Call Distribution (ACD)
Calls forwarded to an ACD Message Center are queued, so that no CFNA timeout occurs.

- Attendant
Calls forwarded to an Attendant Message Center are queued, so no CFNA timeout occurs.
- DN
An indirect call forwarded to a DN Message Center and not answered by an operator is forwarded to a second level if SFA for DN-MC.

Note: It is recommended that DN Message Center stations be denied CFNA, Call Forward Busy (CFB), Call Forwarding (CFW), and Call Hunting (HUNT).

Multiple Appearance Directory Numbers (MADNs)

Call redirection parameters like Hunt and Call Forward No Answer are derived from the TN data block (LD 20 TNB) of the prime appearance of the called MADN. If there is more than one prime appearance, the parameters are selected from the last TN in the DN block for the DN (LD 22 DNB).

If more than one prime appearance of a MADN exists, the following information must be considered prior to configuring call redirection parameters for MADNs.

The DN Block organizes MADN information in numerical TN order. The TN with the highest numerical value (000-0-06-03) is placed at the beginning of the list. The list then continues in descending order with the lowest numerical TN (000-0-03-01) at the end of the list. Service change activity affects the organization of the DN list as described in the following paragraphs.

- If a telephone undergoes Service Change, its TN is moved to the beginning of the DN list, irrespective of the numerical value. This telephone remains at the beginning of the list until another Service Change or a SYSLOAD.
- If a DN is assigned as a Prime DN on a telephone and as a secondary DN on one or more telephones, the DN list is still organized as described in the preceding paragraphs. If only one prime appearance of a DN exists, however, call redirection parameters are derived from the TN of the prime appearance telephone, even though it may not be at the end of the list. A prime appearance is always the first TN used when the system looks for call redirection instructions.

- If a DN appears on an analog (500/2500 type), and Meridian 1 proprietary telephones, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the list. Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves its TN to the beginning of the list. A Service Change to a Meridian 1 proprietary telephone moves its TN to the end of the list.
- A SYSLOAD restructures the list with analog (500/2500 type) telephones at the top and Meridian 1 proprietary telephones at the bottom. Call redirection parameters continue to be derived as described in the preceding paragraphs.

Recovery on Misoperation of Attendant Console

Call Forward takes precedence over the Misoperation feature.

Slow Answer Recall

When a Call Forward No Answer call is unanswered at a telephone eligible for Second Level Call Forward No Answer, and the call was extended by an attendant, Second Level Call Forward No Answer takes precedence over Slow Answer Recall. If the telephone has a Second Level Call Forward No Answer Denied Class of Service, the system performs Slow Answer Recall for the unanswered call.

Trunk Barring

If an Originating Trunk Connection is forwarded to a barred route, it receives the intercept treatment specified in the Customer Data Block.

Feature packaging

Call Forward No Answer Second Level is included in base system software.

Feature implementation

LD 15 – Assign Message Center to allow the Message Waiting indication.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener
CUST	0	Customer number.
- OPT	(MCX), MCI	(Exclude) include Message Center.

LD 10 – Add/change Second Level Call Forward No Answer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(FND), FNA (MWD), MWA (SFD), SFA	(Deny) allow Forward No Answer. (Deny) allow Message Waiting. (Deny) allow second level CFNA Note: SFA can be implemented with an MWA Class of Service.
FTR	FDN xxxx...x	Flexible Call Forward No Answer DN.

LD 11 – Add/change Second Level Call Forward No Answer for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
FDN	xxx...x	Flexible Call Forward No Answer DN.
CLS	(FND), FNA (MWD), MWA (SFD), SFA	(Deny) allow Forward No Answer. (Deny) allow Message Waiting. (Deny) allow Second Level CFNA Note: SFA can be implemented with an MWA Class of Service.

Feature operation

No specific operating procedures are required to use this feature.

Call Forward Save

This feature enables sets to have their Call Forward (CFW) status saved as part of the data dump routine, thereby allowing the set to have its CFW status reinstated following a SYSLOAD. Whether a set has Call Forward activated following a SYSLOAD is dependant on the response to the Call Forward Save (CFWS) prompt in LD 17, and the status of the CFW as of the last successful data dump:

- If CFWS is set to NO (the default), no sets will have their CFW saved and all sets will have CFW set to the default (deactivated) following a SYSLOAD; or
- If CFWS is set to YES, all sets will have their CFW status saved and set to the state they were in as of the last successful data dump following a SYSLOAD.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Call Forward Save is part of base software.

Feature implementation

LD 17 – Add or change Call Forward Save on data dump.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Data Block. Gate opener.
...		
MSCL	...	
- CFWS	(NO), YES	Call Forward Save on SYSLOAD.

Feature operation

If CFWS = YES, the Call Forward status of every set is saved at data dump. Should a SYSLOAD occur, all sets are returned to the Call Forward state that they were in as of the last successful data dump.

Call Hold, Deluxe

Deluxe Call Hold (DHLD) offers two options: Individual Hold; and Exclusive Hold.

Individual Hold indicates only those calls placed on hold on Meridian 1 proprietary telephones in a multiple appearance, single call arrangement. When a user puts a call on hold, normal hold (winking) is indicated at the user's telephone only. A slow flicker is shown at all other telephones with the multiple appearance.

With Exclusive Hold Class of Service, multiple appearances of a line remain exclusive to the user's telephone, even when the call is put on hold. While hold (winking) is indicated at the telephone holding the call, the Directory Number (DN) lamp is steadily lit on all other appearances of the held call. The Privacy Release key must be used for access by other appearances of the DN. Telephones with the Exclusive Hold capability can be held at any single-line, SL-1, or Meridian 1 digital telephone with an appearance.

Operating parameters

Exclusive Hold has priority over Individual Hold. If a telephone is equipped with Exclusive Hold, the other telephones receive the Exclusive, not Individual, Hold indication.

Feature interactions

Attendant Administration

Deluxe Hold (DHLD) cannot be administered through the Attendant Administration feature.

Attendant Break-In

The attendant cannot break in to a call on hold.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to held calls on all trunks on the route. All answered calls in the held state will be disconnected if left in that state for an extended period.

Called Party Control on Internal Calls

The calling party and called party can put either party on hold. However, the calling party cannot release the call while the called party is on hold. The called party is permitted to release the call.

Calling Party Privacy

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name will be displayed on the set.

Enhanced Override

Forced Camp-On

Priority Override

Neither held calls nor telephones with calls on hold may be camped on or overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-on or Priority Override.

Mixed DNs

If a call is put on Exclusive Hold in a mixed Directory Number (DN) group, other telephones with an appearance of the DN that go off hook are not included in the call, nor do they receive any tone. Privacy Release cannot be used with exclusively held calls in a mixed-appearance DN group.

Multiple Appearance Directory Number

If two or more Meridian 1 proprietary sets of the same Directory Number are in conference due to privacy release or privacy override, then only one set can hold the call at a given time.

Feature packaging

Deluxe Hold (DHLD) package 71 has no feature package dependencies.

Feature implementation

LD 15 – Enable/disable Individual Hold for the customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(IHD), IHA	(Disable) enable Individual Hold.

LD 10 – Enable/disable Exclusive Hold for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XHD), XHA	(Disable) enable Exclusive Hold.

LD 11 – Enable/disable Exclusive Hold for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(XHD), XHA	(Disable) enable Exclusive Hold.

Feature operation

No specific operating procedures are required to use this feature.

Call Hold, Permanent

Permanent Hold holds an active call on a 2500 telephone without attendant assistance. Calls cannot be originated or received while in the Permanent Hold mode. Incoming calls receive a busy signal if Hunting is not defined for the called telephone.

If the telephone user goes on hook after activating Permanent Hold, the telephone periodically receives a one-second ring burst as a reminder that the call is on hold. This interval is defined at the customer level.

Operating parameters

Permanent Hold is allowed only when a call is active and if the Class of Service allows transfer.

If Busy Verify is attempted on a telephone with a call on Permanent Hold, busy tone is received.

Override cannot be used on a telephone with a call on Permanent Hold.

Permanent Hold cannot be activated during a Conference call.

Two Meridian 1 Option 11C Compact parties, connected trunk to trunk, can activate Permanent Hold at the same time if they both have the feature defined. After being placed on Permanent Hold, the second party can flash the switchhook and dial #4 to hold the call. After flashing the switchhook, any dialing sequence other than the access code results in overflow tone.

Permanent Hold is not supported on station-to-station calls.

If the telephone activating Permanent Hold is part of a mixed arrangement with another 2500, or Meridian 1 proprietary telephone, the following events occur:

- If a different telephone with the same DN goes off hook, that telephone connects to the held party.
- When Permanent Hold is activated, the DN lamp on the Meridian 1 proprietary telephone remains steadily lit.

If the telephone activating Permanent Hold goes off hook, it is automatically reconnected to the held call.

If the held party disconnects, the hold reminder ring stops.

Feature interactions

Attendant Break-In

The attendant cannot break in to a call on hold.

Audible Reminder of Held Call (ARCH)

If Audible Reminder of Held Call (ARCH) is enabled in LD 15, the Audible Reminder of Held Call (ARCH) timer takes precedence over the Permanent Hold timer.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to held calls on all trunks on the route. All answered calls in the held state will be disconnected if left in that state for an extended period.

Calling Party Privacy

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name will be displayed on the set.

Enhanced Override

Forced Camp-On

Priority Override

Neither held calls nor telephones with calls on hold may be camped on or overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-on or Priority Override.

Privacy

A call placed on Permanent Hold has Privacy removed. Privacy is reinstated when the call is removed from Permanent Hold.

Feature packaging

Special Service for 2500 Sets (SS25) package 18 includes Permanent Hold and has no feature package dependencies.

Feature implementation

LD 15 – Set Permanent Hold reminder ring timer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB TIM	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
- PHDT	1-(30)-63	Permanent Hold reminder ring timing in two-second increments (i.e., 30 = 60 seconds).

LD 10 – Enable/disable Permanent Hold for 2500 telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u	Terminal Number.
CLS	XFA	Allow transfer.
FTR	PHD	Enable Permanent Hold.

Feature operation

To place a call on hold, follow these steps:

- 1** While on an active call, flash the switchhook or press the Link key.
- 2** Dial #4, or the Flexible Feature Code (FFC), if enabled.
- 3** Hang up.
 The Permanent Hold timer begins.

To retrieve a held call, lift the handset.

Call Park

Call Park (CPRK) places a call in a parked state, similar to hold, where it can be retrieved by any Attendant Console or telephone. A parked call must have an access ID, also known as a Park DN. This is done by parking the call on a System Park DN or on any telephone Directory Number (DN) in the system. A parked call does not occupy a DN, nor is there a lamp to indicate its presence.

Up to 50 System Park DNs are available per customer. There is no limit to the number of DNs that can be used as a Call Park access ID. However, only one call at a time can be parked against any particular telephone or System Park DN.

In addition, the system can offer a default access ID. If System Call Park is defined, the default access ID for the following equipment is the next available System Park DN for the equipment:

- Attendant Consoles
- SL-1 telephones
- M3000 telephones, and
- Meridian 1 digital telephones equipped with digit display or display screens.

If System Park DNs are not defined for the customer, the default access ID is the DN of the telephone where the call was parked. An attendant must press the Park key and enter a DN if System Park DNs are not defined.

Park the call, then page the person called. The person called then picks up the call directly or through the attendant. Call Park also enables the telephone that originally receives the call to park it so that another telephone can retrieve it later. The telephone placing the call in Park is free to make or answer other calls.

Calls can be parked from telephones or Attendant Consoles with the Park key/lamp pair or Special Prefix (SPRE) code. Parked calls not retrieved within a specified time (30 to 240 seconds) are recalled to the telephone that parked it. Music for parked calls can be provided if Music (MUS) package 44 is installed.

If a call is parked on a System Park DN, it is recalled to the attendant who parked it if the parking attendant is idle. If the parking attendant is busy, the call is presented to any idle attendant.

If a call is parked on a telephone DN, the recall is placed in the attendant queue and presented to any available attendant. In all cases, parked calls recalled to the attendant appear on the Recall Incoming Call Identification (ICI) key, if defined.

The Park DN of the most recently parked call can be redisplayed on Meridian 1 proprietary telephones equipped with displays, a Park key, and a Display key. This is done by pressing the Display key, then the Park key. The attendant can display the last call parked by pressing the Park key when no loop key is active.

Operating parameters

Call Park is not available for calls on Dial Intercom keys or for calls on analog (500/2500 type) telephones designated as Dial Intercom telephones.

Call Park is not permitted when Privacy Release or Conference is active.

Calls parked from Meridian 1 proprietary telephones, and analog (500/2500 type) telephones are recalled to the telephone that parked the call.

When a Multiple Appearance Single Call telephone mix (the same DN appears on Meridian 1 proprietary telephones, and single-line telephones) is parked, other appearances are not automatically bridged to the parked call when going off hook. The call can be retrieved by another Multiple Appearance DN (MADN) telephone only by dialing the Call Park retrieval code and the DN.

Remote access (e.g., Centralized Attendant Service or Direct Inward System Access) for parked parties is not permitted.

Private lines, attendant DNs, Automatic Call Distribution (ACD), and Direct Inward System Access (DISA) DNs are not valid park numbers.

Trunks without disconnect supervision cannot be parked.

Parked calls are not retained during initialization or SYSLOAD.

Parked calls cannot be accessed with the Automatic Call Distribution (ACD) In-calls key. If parked access from Automatic Call Distribution (ACD) positions is required, a DN key must be provided.

A parked call recall cannot be placed on hold by the attendant.

A call transferred to the attendant by the Conference key on a Meridian 1 proprietary telephone cannot be parked by the attendant. A call transferred to the attendant by the Transfer key on a Meridian 1 proprietary telephone can be parked by the attendant.

Feature interactions

AC15 Recall: Transfer from Meridian 1

If party Z parks the call initiated by party X (an external caller), then the AC15 Recall: Transfer from Meridian 1 cannot be used to call party Y. Party Z can neither park, selectively, one member of a split trunk nor park a whole split trunk. This avoids a recall to an attendant on the recall originating node that would not be able to send a recall to toggle from one party to another.

Advice of Charge for EuroISDN

When a set parks a call charged with Advice of Charge, the calling party continues to be charged until the call is answered by another set.

Access Restrictions and Class of Service

A call can be parked on any DN, regardless of its Class of Service. Access to a parked call is governed by the same Class of Service restrictions for normal trunk-to-telephone call processing. The following table details the restrictions. These restrictions can be overridden with the Authorization Code.

Parked call type	Accessing telephone Class of Service		
	FRE	FR1	FR2
Telephone	allowed	allowed	allowed
CO/FX/WATS	denied	denied	denied
DID Trunk	denied	denied	denied
TIE trunk	allowed	allowed	denied

Attendant Blocking of Directory Number

It is not possible to park an Attendant Blocking of DN call. If a Call Park call recalls to a blocked DN, the recall will be treated as if the DN is in a ringing state.

Attendant Break-In

The attendant cannot break in to a parked call.

Automatic Call Distribution (ACD)

Calls parked by ACD agents are recalled to the ACD DN queue and presented to any available agent.

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the Call Park (PRK) key is ignored if pressed.

Busy Lamp Field

A busy lamp field can be equipped to display the status of System Park DNs.

Call Detail Recording (CDR)

Call Detail Recording (CDR) records for Call Park are similar to the start and end records generated when a call is transferred or terminated. When a call is parked, a Call Detail Recording (CDR) start record is generated if one has not already been generated by another feature. A CDR record is not generated when the parked call is accessed. A CDR end record is generated when the trunk call is terminated or when a parked call disconnects.

Call Detail Recording on Redirected Incoming Calls

There is no interaction with Call Detail Recording on Redirected Incoming Calls, as there is no “N” record generated in a Call Park scenario.

Call Forward

A recalled parked call to telephones with Call Forward, Call Forward Busy, or Call Forward No Answer (CFNA) is not forwarded.

Call Page Network Wide

A station set or Attendant Console that parks an external PAGENET uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Call Park on Unsupervised Trunks

A 14-second Disconnect Timer applies to parked calls on all trunks on the route. All answered calls in the parked state will be disconnected if left in that state for an extended period.

Call Waiting

A recall of a parked call is not presented in the Call Waiting mode. If an internal telephone is in the parked state, Call Waiting to that telephone is not provided.

Centralized Attendant Service (CAS)

Call Park is limited to the local Meridian 1 Option 11C Compact for systems equipped with CAS. Call Park cannot be accessed from release-link trunks.

**Conference
Call Transfer**

A parked call can be accessed after Conference or Call Transfer is activated.

Console Presentation Group (CPG)

If the attendant who parked a call on the System Park DN is busy when that call is recalled and the parking attendant does not belong to the same CPG specified for the tenant of the calling station, the parked call is presented to an idle attendant in the same CPG specified for the calling station. If no attendant in that CPG is available to receive the recall, the parked call is queued until one of the attendants in the CPG becomes idle.

Dial Access to Group Calls

Call Park cannot be applied to a Group Call.

Do Not Disturb (DND)

Calls can be parked on telephone DNs that are in the Do Not Disturb mode (DND). Telephones in the Do Not Disturb (DND) mode can park a call or access a parked call. Recall of a parked call to a DND telephone is recalled to the attendant.

INIT ACD Queue Call Restore

Parked calls are restored by ACDR as new incoming calls to the ACD DN.

Make Set Busy

Recall of a parked call to a telephone in the Make Set Busy mode is intercepted by the attendant.

Multi-Tenant Service

If the attendant who parked a call on the System Park DN is busy when that call is recalled and the parking attendant does not belong to the same Console Presentation Group (CPG) specified for the tenant of the calling station, the parked call is presented to an idle attendant in the same CPG specified for the calling station. If no attendant in that CPG is available to receive the recall, the parked call is queued until one of the attendants in the CPG becomes idle.

M1250/M2250 Attendant Console

The Call Park access code and the Park DN are displayed for parked call recalls.

Privacy Release

When a call from a Meridian 1 proprietary telephone is parked, that telephone cannot activate Privacy Release. For example, Party A calls Party B. Party B parks the call. Party A cannot activate Privacy Release.

Private Line Service

Private lines cannot park a call.

QCW4 Attendant Console

When a parked call returns to the console, the console shows an attendant display (DLEN in LD 12) of eight digits with only the Special Prefix (SPRE) code and the Park DN when a parked call recalls to the console. (Press the Display Destination key twice for the Park DN.) An attendant display of 16 digits shows the SPRE, the Call Park access code, and the Park DN for parked call recalls.

Recall After Parking

This enhancement to Call Park causes a parked call to be recalled to the attendant or night DN if the attendant is in Night Service, rather than to the parking telephone, if not answered within a customer-defined period of time (two-minute maximum). The call may be external or internal.

The recall to the attendant appears on the Recall ICI key. If the attendant is in Night Service, the recall occurs to the night DN. If the night DN is busy, the call is queued if it is an external call.

**Speed Call
Autodial**

Speed Call or Autodial can be programmed to park calls or access parked calls.

Traffic measurements

TFC007 is included for Call Park. It provides traffic measurements for the following:

- system park usage
- system park overflow
- telephone park usage

- park access
- park recall, and
- average waiting time.

Feature packaging

Call Park (CPRK) package 33 has no feature package dependencies.

Feature implementation

LD 15 – Enable or disable Call Park.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(CPD), CPA	(Disable) enable Call Park.

LD 50 – Add/change or print Call Park. This overlay must be defined for Call Park operation.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CPK	Call Park data block.
CUST	0	Customer number.
CPTM	30-(45)-240	Parked call recall time in seconds (the default is 45 seconds).
SPDN	(0)-50 xxxx	Number of contiguous System Park DNs and the first System Park DN. The default 0 (zero) disables System Park DN capability, but allows Telephone Park DNs. If the DN Expansion package is equipped, the System Park DN can have up to seven digits.
MURT	0-511	Music route number for parked calls.

LD 10 – Allow or deny access to Call Park for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow access to Call Park.

LD 11 – Add or change a Call Park key on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx PRK	Add a Call Park key (key number must be 17 for the M2317 and 31 for the M3000).

LD 12 – Add or change a Call Park key on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Attendant Console type.
TN	c u	Terminal Number.
KEY	xx PRK	Add a Call Park key (key number can be 00-19 on the M2250).

Feature operation

To park a call with the Park key, follow these steps:

- Press **Park** twice.
If there is a System Park extension, the call is parked on it. Otherwise, it is parked on your extension.

To park a call on an extension other than the System Park extension, follow these steps:

- 1 Press **Park**.
- 2 Enter the extension number.
- 3 Press **Park** again.

To park a call using SPRE codes, follow these steps:

1 Press **Transfer** or **Conference**.

2 Dial SPRE 71.

You can dial an extension number to park the call, or you can use the System Park extension, chosen automatically. It shows on your telephone's display, if equipped.

3 Press **Transfer** or **Conference** again.

To retrieve a parked call, follow these steps:

1 Select a free extension.

2 Dial SPRE 72.

3 Dial the extension where the call is parked.

Call Park on Unsupervised Trunks

This enhancement to the Call Park feature allows Central Office (CO), FEX, and Wide Area Telephone Service (WATS) trunks, without disconnect supervision, to be call-parked. All other trunk types without disconnect supervision cannot be parked. The Disconnect Timer (DCTI) is used to prevent phantom calls from ringing beyond the set time. Answered calls in the held, parked, camped-on, or ringing state are disconnected when the DCTI times-out.

This enhancement also allows Direct Inward System Access (DISA) on CO, FEX, and WATS trunks without disconnect supervision. DISA on unsupervised trunks does not intercept to the attendant, but is subject to Timed Forced Disconnect Timer, which prevents the CO trunk from being seized if the far end hangs up.

Operating parameters

The Disconnect Timer applies not only to Call Park but also to all trunks on the route. All answered calls in the held, parked, ringing, or Camp-On states will be disconnected if left in that state for an extended period (this even applies to calls in a call waiting queue type).

Feature interactions

Attendant Calls Waiting Indication

If all the attendants are busy and a Call Park Recall occurs, the recall is placed in the calls waiting queue. If the recalled station is busy when the recall occurs, the Disconnect Timer (DCTI) temporarily suspends timing until the recall is presented. After the recall is presented, the Disconnect Timer continues timing for the remainder of the period.

Automatic Call Distribution (ACD)

If all the ACD agents are busy and a Call Park Recall occurs, the recall is placed in the ACD DN queue.

Feature packaging

Call Park on Unsupervised Trunks is included in Direct Inward System Access (DISA) package 22.

Feature implementation

LD 16 – Respond to the DCTI prompt as follows:

Prompt	Response	Description
...		
DCTI	(0)-511	Time, in seconds, that an extension is allowed to ring or be on hold or Call Park before the trunk is disconnected. 0, the default, or <CR> means that the condition goes on indefinitely. Respond with a value equal to the number of seconds a set is to ring after recall, plus the value of the Call Park Recall Timer (which is defined in LD 50 in response to the CPTM prompt). The value stored, which will be the closest lower multiple of four, is echoed back upon entry.

Feature operation

Feature operation is the same as for Call Park.

Call Party Name Display

Call Party Name Display (CPND) identifies the calling or called number in addition to the DN. The identifier (e.g., the name) associated with a DN on telephones with an alphanumeric display is defined in LD 95.

Whenever the calling party's DN displays on the terminating telephone, the calling party's name also appears. Likewise, on an internal call, the called party's name is appended to the displayed DN on the originator's telephone, as soon as a valid DN is completely dialed.

With this feature, the DN and name of the originally dialed party for redirected calls is displayed. A Class of Service, DNDA/DNDD (Dialled Name Display Allowed or Denied), is assigned on a per-telephone basis. The terminating telephone must have DNDA to display the name of the originally dialed party.

The M1250/M2250 Attendant Console can extend a call to a DN requested by a calling party. The CPND enhancement enables the M1250 Attendant Console to display the incoming call information on one line and the outgoing call information on the next line when extending an incoming call.

Multi-Language CPND displays the party's name in Roman/English or Katakana (Japanese alphabet) characters on Meridian 1 modular telephones. The names are stored in the database under each character set and the language is specified with the Meridian 1 modular program keys.

Two languages can be stored in the database for any given name. For this enhancement to work fully, both telephones involved must have the same name in the same languages. (E.g., John Smith calls Anne Jones. Both John and Anne must have Katakana in their database for the name to appear in Katakana characters. If John has Katakana enabled, but Anne does not, Anne sees the English version.)

Entering Katakana, or any other non-ASCII Roman characters, requires a system terminal that supports eight-bit, no-parity Input/Output.

The maintenance terminal must support ISO 8859-1 Latin 1 for the Roman character mode.

Call Party Name Display assignment

A CPND name string can be assigned to internal DNs associated with any of the following:

- analog (500/2500 type) telephones
- Single-call/multiple-call SL-1 telephones
- Trunk access codes
- Attendant DNs
- Automatic Call Distribution (ACD) DNs, and
- Dial Intercom Group member numbers.

As a customer option for multiple appearance DNs (MADNs), the assigned CPND name can be linked with its member telephone's designator (DES field in the TN block) to further identify the party of a shared DN.

Call Party Name Display composition

A CPND name is the name used to identify a DN, entered in ASCII alphanumeric character format. The maximum CPND length is the smaller of two values: the maximum length configured in LD 95 or 27 characters, including spaces and special characters.

The ASCII characters supported are A-Z, 0-9, space, Hex 20-127, and the following special characters:

" () - # ,

The CPND name can be entered as first name, a space, and last name (such as Mary Smith). Also, the NAME prompt in LDs 10, 11, and 95 accepts first name, a comma as a separator, and last name (such as Mary,Smith).

Table 18
Response formats for CPND NAME prompt

Entered Data	Displayed Result
Sue Smith <CR>	Sue Smith
Sue,Smith <CR>	Sue Smith
Sue <CR> Sue, <CR>	Sue (Trailing comma is ignored.)
Sue,Smith, Dept. 410 <CR>	Sue Smith, Dept. 410
Sue Smith, Joe Brown <CR>	Sue Smith, Joe Brown

The default is to accept the names as entered, replacing the comma with a space. Hence, a value entered as Mary,Smith displays as Mary Smith.

Note: Do not enter leading spaces. LD 95 ignores them. When CPND information is printed (using LD 10/11 or LD 20), the printout reflects what is in the database, not what appears on the telephone display.

In addition to the caller's name, a reason field can be provided to indicate the cause of a redirection. This is a customer option and the actual mnemonics are service changeable. The following call redirections have a reason displayed:

- Call Forward All Calls
- Call Forward No Answer
- Hunting/Call Forward Busy
- Call Transfer with Network Call Redirection
- Attendant Alternative Answering, and
- Call Pickup.

Display Devices and Capabilities

The M3000 Touchphone has a display line of 35 characters, 27 available for displaying DN-related information.

The M2317 has a display line of 40 characters, 33 available for displaying DN-related information.

If there are more characters than the telephone's display allows, the system deletes letters to make the name fit.

The M1250 and M2250 Attendant Consoles are equipped with four lines of LCD alphanumeric display. Each line has 40 characters, and lines 2 and 3 are used to display DN-related information. If the number of characters displayed is more than 40, an arrow appears in the upper right corner of the display. The arrow alerts the user that more information can be retrieved using the scrolling keys. For complete information, refer to the *M1250/M2250 Attendant Console User Guide* (P0735210).

The call type, originating or terminating telephone, and the Class of Service all affect the display and CPND information. Three Classes of Service are associated with the display function. CPND conforms to whichever Class of Service is configured for the telephone.

- Automatic Digit Display ADD
- Digit Display Selection DDS
- Touchphone Digit Display TDD

No user interaction is required to display information on the call. On the M2317 telephone, however, the user can press the SAVE # softkey to save the name and number of the calling party. This applies to all outgoing and answered incoming calls.

Operating parameters

CPND is not displayed if a live call is not involved (e.g., while programming a Speed Call key).

Attendant Administration does not support the entry of CPND class marks for digital telephones.

CPND is not displayed on the calling telephone while making an outgoing trunk call.

CPND is not supported on data calls.

CPND is not available on QCW Attendant Consoles.

CPND applies only to redirected calls on M2008, M2016, M2216, M2616, M3000, and M2317 telephones.

For M2008, M2016, M2216, M2616, M3000, and M2317 telephones, CPND is provided on a per-telephone basis, depending on the Class of Service.

DNDA (Dialed Name Display Allowed) and NDD (No Digit Display) Class of Service are mutually exclusive.

Multi-Language CPND operates on Meridian 1 modular telephones only.

An individual DN can have Roman/English, or Katakana, or both programmed in the database if MLIO is equipped.

If the call destination is a trunk or a telephone type other than Meridian 1 modular, the name is translated into the ASCII equivalent.

Multi-Language CPND applies to DNs on local switches only. CPND for Integrated Services Digital Network (ISDN) calls is displayed in English only.

The CPND feature uses JIS X 0201-1976, the RCode for Information Interchanges, also known as JIS-Roman, which specifies the upper and lower case letters, numbers, punctuation and symbols, and Katakana.

Feature interactions

Attendant Recall

Attendant Recall using the Attendant Recall key or a switchhook flash results in both source and destination information being displayed. No redirection reason is displayed, however. In this type of recall, the party that pressed the Attendant Recall key or switchhook is the destination party.

Attendant Recall using Call Transfer or Conference displays the recalling party's DN and CPND information on the attendant's source line. No redirection reason is displayed. If the recall is done with the Transfer key the third party's DN and CPND information are displayed on the source line when the transfer is complete.

Autodial and Speed Call

No name information displays during the programming of Autodial and Speed Call numbers.

Automatic Call Distribution (ACD) Dialed Number Identification Services (DNIS)

If an incoming trunk call from a route with DNIS is presented to a display telephone, the identification digits follow the regular trunk access code and member number. It precedes the CPND name for the DNIS incoming trunk group.

ACD Routing by DNIS

When an incoming trunk call from a route with Routing by DNIS is presented to a display telephone, the identification digits follow the regular trunk access code and member number. It precedes the CPND name for the DNIS DN.

Automatic Wake Up (AWU)

All display information associated with Automatic Wake Up programming is directed to line three of the display. Names are appended to DNs appearing on line three if they are different from those on line two, or if no DN appears on line two. There is no DN information on line two if the attendant has initiated the AWU process while not on an active call. No DES information is appended, since AWU operates on a DN basis.

Calls held or reestablished

When a call is put on hold, the holding telephone's display clears. The held telephone's display does not change. When the telephone reestablishes the call, the display returns the original DN and name.

Call Park

Upon valid operation of the Park key, or dial-access if used, CPND shows the SPRE code and the Park Access ID. Because the Park Access Code is displayed, no CPND name is displayed. The only time that the digit display shows the actual DN of the parked party is when the parked party has been retrieved, put on hold, and then retrieved from hold.

Call Transfer

When the Transfer key is pressed during an active call, the display clears. The call is in a held state. The DN and name of the transferred telephone appear on the display when the DN is dialed. When the transfer is complete, the transferring telephone's display clears because the telephone is now disconnected. The transferred telephone's display changes to show the name of the newly connected party.

Centralized Attendant Service (CAS)

When an attendant in the CAS mode extends a call to a remote station, the display shows only the source line.

Conference

When pressed during an active call, or to set up a conference, the Conference, Connect, or Join Parties key clears the display. The telephones involved in the conference have blank displays. If the conference returns to a two-way only call, each telephone displays the DN and name of the other telephone.

Dial Intercom

The display on telephones connected by Dial Intercom shows the group member's DIG number plus CPND information.

Display Key

When pressed during a call, the Display key clears the display until pressed again. The original display reappears. When the telephone is inactive and the DSP key is pressed, followed by a function key like Autodial, no CPND information is displayed.

End-to-End Signaling

When entered after a call is answered, EES digits are displayed immediately following the CPND name of the connected party. Leading DN digits and name characters may be shifted out of the display window.

ISDN

On incoming ISDN calls, the Calling Line ID number can be displayed instead of a DN on the source party line. CPND applies to telephones configured for ISDN when redirection is supported, and only when all parties involved are located on the same switch. Calls can redirect across a Meridian 1 network with Network Call Redirection. The CPND is maintained through the redirection.

ISDN QSIG Name Display

Call Party Name Display interacts with ISDN QSIG Name Display, depending on the Name Display configuration in LD 16 for BRI or LD 17 for PRI. When a QSIG network is interacting with an MCDN network providing network capability ND3, both the MCDN and QSIG Name Display feature function on the same level.

Listed Directory Number

CPND is not supported for LDNs. If the LDN is an incoming trunk route, the CPND assigned to the route access code is displayed.

Manual Signaling (Buzz)

If the Signal key is pressed to buzz another telephone, no digit or name display appears on the telephone.

Meridian 911

The Calling Party Name Display feature can be used to configure and display the incoming 911 route name.

Multiple Appearance DN (MADN)

On ST and 21 systems, the number of DN appearances restricts the number of letters/digits allowed for CPND. These engineering guidelines must be followed:

- 11 or fewer appearances allows 27 digits/letters in the name
- 12 appearances allows 23 digits/letters in the name
- 13 appearances allows 20 digits/letters in the name
- 14 appearances allows 16 digits/letters in the name
- 15 appearances allows 14 digits/letters in the name

- 16 appearances allows 11 digits/letters in the name
- 17 appearances allows 9 digits/letters in the name, and
- 18 appearances allows 8 digits/letters in the name.

M3000 Touchphone

Local Directory Translation CPND and the M3000 Touchphone DN-to-name translation are mutually exclusive. If CPND name display is allowed (CLS = CNDA), the DN-to-name translation must be disallowed.

Override

When Overriding an established call, the displays of the other telephones show the DN and name of the overriding party.

Slow Answer Recall

Slow Answer Recall results in displays showing source and destination information. If a redirection occurs, the reason is displayed.

Voice Call

The telephone originating a Voice Call displays the called DN's CPND. The called telephone shows the caller's DN and name on its display.

Feature packaging

Call Party Name Display (CPND) package 95 requires:

- Digit Display (DDSP) package 19
- M2000 Digital Sets (DSET) package 88
- M3000 Digital Sets (TSET) package 89 or
- M2317 Digital Sets (DLT2) package 91, and
- Aries Digital Sets (ARIE) package 170.

Multi-Language CPND requires Multi-Language TTY Input/Output (MLIO) package 211.

If the designator field is to be used for multiple-appearance DNs, CPND requires:

- Office Data Administration System (ODAS) package 20.

For Hotel/Motel applications configuring CPND, CPND requires:

- Background Terminal Facility (BGD) package 99, and
- Multi-Language TTY Input/Output (MLIO) package 211 to support eight-bit, no-parity system terminals.

Feature implementation

Before name strings can be assigned to various telephones, the CPND data block must be created in LD 95. The number and size of CPND name strings is limited by available space in the Protected Data Store, so it is recommended that you initially use a small number for the maximum character length.

Enable CPND and add names to the CPND data block

LD 95 – Create the CPND data block.

Prompt	Response	Description
REQ	NEW	Create CPND database (or open existing database).
TYPE	CPND	CPND data block.
CUST	0	Customer number.
CNFG	<CR>	Standalone memory.
MXLN	5-(17)-27	Maximum number of characters allowed in each name string. Once defined, this value can be changed only by removing the CPND data block and recreating it.
STAL	(NO), YES	Static allocation of name storage. Must be YES if Background Terminal is equipped, or whenever name strings change frequently.

- DFLN	5-MXLN	Average default character string length. Suggested default is 13 or the maximum length given to MXLN, whichever is less. Prompted if STAL = YES.
DES	(NO), YES	(Do not) allow designator for MADNs.
RESN	(NO), YES	(Do not) allow display of reason for redirecting calls.
- CFWD	aaaa, (F)	Mnemonic for Call Forward All Calls display.
- CFNA	aaaa, (N)	Mnemonic for Call Forward No Answer display.
- HUNT	aaaa, (B)	Mnemonic for Hunt/Call Forward Busy display.
- PKUP	aaaa, (P)	Mnemonic for Call Pickup display.
- XFER	xxxx, (T)	Mnemonic for Call Transfer display for NCRD.
- AAA	aaaa, (A)	Mnemonic for Attendant Alternative Answering.

LD 95 – Add names to the CPND data block.

Prompt	Response	Description
REQ	NEW	Open CPND data block to add new entries.
TYPE	NAME	Create a new name string.
LANG	(ROM), KAT, <CR>	Store the name in Roman or Katakana. <CR> stores the name in English.
CUST	0	Customer number.
DIG	0-2045, 0-99	Dial Intercom Group number and member number. Each time a name string is assigned to a Dial Intercom Group member, the DIG prompt repeats, until a carriage return is entered to go to the DN prompt.
	<CR>	Bypass Dial Intercom Group and go to the DN prompt to assign names on a DN basis.
- NAME	aaaa,bbbb	CPND name string; maximum of 27 characters.
- XPLN	xx	Expected Length.
		Range must be between the Input Name length and the MXLN, or it defaults to DFLN.
	<CR>	Set XPLN to average default character string length (DFLN) or the actual length (NAME), whichever is longer.
DN	xxx...x	DN to which name string is linked.
- NAME	aaaa,bbbb	CPND name string; maximum of 27 characters.

- XPLN	xx	Expected Length. Range must be between the Input Name length and the MXLN, or it defaults to DFLN.
	<CR>	Set XPLN to average default character string length (DFLN) or the actual length (NAME), whichever is longer.
DCNO	xxx	IDC conversion table number (0-254).
IDC	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
NAME	aaaa,bbbb	CPND name string; maximum of 27 characters.

LD 10 – Allow names to be assigned to analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
FTR	CPND	Allow CPND name assignment on this telephone.

LD 11 – Allow names to display on M2008, M2016, M2216, M2616, M3000, and M2317.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(CNDD), CNDA (DNDD), DNDA	(Deny) allow display of CPND entries. (Deny) allow display of CPND originally dialed entries.

LD 12 – Allow names to display on Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
CPND	(CNDD), CNDA	(Deny) allow CPND name assignment.
DNDI	(DNDD), DNDA	(Deny) allow display of originally dialed CPND entries.

Change or remove names in the CPND data block**LD 95 – Open the CPND data block to change or remove entries.**

Prompt	Response	Description
REQ	CHG, OUT	Change, or remove an existing entry.
TYPE	NAME	Change, or remove an existing CPND name string.
CUST	0	Customer number.
LANG	ROM, KAT, ALL	Change or remove the name in Roman or Katakana. ALL is used to remove all names stored for the DIG.
DIG	0-2045, 0-99 ALL, <CR>	Dial Intercom Group number and member number. Each time a name string is assigned to or removed from a Dial Intercom Group member, the DIG prompt repeats, until a carriage return is entered to go to the DN prompt. ALL removes all entries for that DIG. <CR> bypasses DIG and goes to the DN.
- NAME	aaaa,bbbb <CR>	CPND name string for this DIG; maximum of 27 characters. Leave this entry unchanged.
DN	xxx...x ALL <CR>	DN of name string being changed or removed. Remove all DN-defined entries. Return to REQ prompt.
- NAME	aaaa,bbbb	CPND name string; maximum of 27 characters.

DCNO	xxx	IDC conversion table number (0-254).
- IDC	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
NAME	aaaa,bbbb	CPND name string; maximum of 27 characters.

Print entries from the CPND data block

LD 95 – Print information associated with entries in the CPND data block.

Prompt	Response	Description
REQ	PRT	Print entries in the CPND data block.
TYPE	NAME	CPND name strings.
CUST	0	Customer number.
LANG	ROM, KAT	Print names in Roman or Katakana.
PAGE	(NO), YES	Page headers and page numbers for multiple DNs and DIGs.
DIG	ALL	Print information on all entries defined by Dial Intercom Groups.
	0-2045, 0-99	Dial Intercom Group and member number. The DIG prompt repeats until a carriage return is entered.
	<CR>	Bypass Dial Intercom Group and go to the DN prompt to print information on a DN basis.
DN	ALL	Print information on all DN entries.
	xxxx	DN to print information from. DN prompt repeats until a carriage return is entered.
	<CR>	Return to REQ prompt.
DCNO	xxx	IDC conversion table number (0-254).

- IDC SHRT	nnn	Existing complete or partial IDC number. Prompted only when DCNO is valid.
	ALL	All names defined are printed.
	(NO) YES	Short form. Prints one IDC per single line. Prints several IDCs on single line.

Add or change CPND name entry for a telephone

LD 10/11 – Add or change CPND name.

Prompt	Response	Description
REQ	NEW, CHG	Add or change CPND name information.
TYPE	aaaa	Telephone type.
TN	c u	Terminal number.
CUST	0	Customer number.
CPND	NEW, CHG, OUT	Add, change, or remove the CPND information.
CPND_ LANG	(ROM), KAT	Use Roman or Katakana characters.
NAME	aaaa,bbbb	CPND name; maximum of 27 characters.
XPLN	xx	Expected name length.
DISPLAY _FMT	(FIRST) LAST	First name; Last name (John Doe). Last name; First name (Doe John).

Feature operation

No specific operating procedures are required to use this feature.

Call Pickup

Call Pickup allows telephones to be arranged in groups consisting of any combination of analog (500/2500 type), and Meridian 1 proprietary telephones.

Telephones can be specified as Call Pickup allowed or Call Pickup denied. If the telephone's Class of Service is Call Pickup allowed, the user can answer calls made to any telephone within the Call Pickup group. If the telephone's Class of Service is Call Pickup denied, but the telephone is assigned to a Call Pickup group, the user cannot answer calls directed to other telephones. Calls to the denied telephone, however, can be answered by other members of the group.

Meridian 1 proprietary telephones can dial-access this feature, or be equipped with a Call Pickup key. An associated lamp is not required.

Central Office (CO) Trunk Priority provides CO trunk calls priority over other calls within the distinctive ringing and normal ringing queues. If the CO Trunk Priority is implemented, calls are answered in the following order:

- Distinctive Ringing Queue CO call Priority 1
- Distinctive Ringing Queue non-CO call Priority 3
- Normal Ringing Queue CO call Priority 2
- Normal Ringing Queue non-CO call Priority 4

Operating parameters

The number of Call Pickup groups is 4095. The number of members assigned to each group is unlimited, depending on available system memory.

Feature interactions

Advice of Charge for EuroISDN

Calls charged with Advice of Charge that are either transferred, extended or redirected to another set via Call Pickup are charged against the last set that answers the call and the controlling set releases.

Automatic Call Distribution (ACD)

Automatic Call Distribution (ACD) DNs are not supported by Call Pickup.

Call Detail Recording on Redirected Incoming Calls

When an incoming call is picked up, the answering set is identified in the Terminating ID. This operation remains the same.

Call Park

An analog (500/2500 type) telephone user on a call can pick up a call by parking the existing call, then activating the Call Pickup feature.

Calling Party Privacy

If an incoming trunk call with the Privacy Indicator is picked up locally, the display of the calling Party Number and Name are not displayed on the terminating set.

Directed Call Pickup (DCP)

Call Pickup can be assigned to a telephone independent of Directed Call Pickup (DCP).

Flexible Feature Codes (FFC)

FFC codes are not supported on a Meridian 1 proprietary telephone during an attempt to pick up a Dial Intercom ringing call.

ISDN QSIG Name Display

An incoming QSIG call with name display presentation allowed has name information displayed on the set that picks up the call. If the incoming QSIG call has presentation denied, the calling party's name is not displayed on the set picking up the incoming call.

Multi-Party Operations

Users of analog (500/2500 type) telephones with Three-Party Service cannot pick up a call if involved in another call. After picking up a call, a user can establish a consultation connection and dial control digits, as normal.

Feature packaging

Call Pickup is included in base system software.

Feature implementation

LD 15 – Implement CO Trunk Priority in the Customer Data Block.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(COX), COP	CO Trunk Priority for the Call Pickup feature. COX is no Priority.

LD 10 – Define Call Pickup group and Class of Service for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
RNPG	0-4095	Call Pickup group number.
CLS	PUA	Allow Call Pickup.

LD 11—Define Call Pickup group, Class of Service, and Call Pickup key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
RNPG	0-4095	Call Pickup group number.
CLS	PUA	Allow Call Pickup.
KEY	xx RNP	Add a Call Pickup key.

Feature operation

To answer a call in your Call Pickup group from a Meridian 1 proprietary telephone, follow these steps:

- 1** Lift the handset, or press a DN key.
- 2** Press **Call Pickup** or dial SPRE + 3.

To answer a call in your Call Pickup group from an analog (500/2500 type) telephone, follow these steps:

- 1** Lift the handset.
- 2** Dial SPRE 3 or PURN FFC.
You are connected to the caller.

Note: If you are on a call when another call comes in for someone in your Call Pickup group, you must end, park, or transfer the existing call before you can answer the new call.

Call Pickup, Directed

Directed Call Pickup (DCP) allows a caller from one Call Pickup group to pick up a ringing call in another Call Pickup group. The ringing call is picked up by dialing either its Call Pickup Group number or the DN on which it is ringing.

Directed Call Pickup adds two new methods of Call Pickup to the existing Call Pickup feature:

- Group Pickup (GPU), and
- DN Pickup (DPU).

Group Pickup lets you pick up any ringing call in your own pickup group, or any pickup group in the system.

DN Pickup allows pickup of a call ringing on a specified DN. If a DN is not assigned to any group, it defaults to Group Zero (0). This prevents any other group from picking up that DN.

Both GPU and DPU can be activated using programmable keys or Special Prefix (SPRE) code dialing. Each pickup method can be assigned to a telephone independent of the others.

The dialed digits (DN or group number) are displayed on the Digit Display as dialed. Like the Call Pickup feature, the lamp is optional for the Call Pickup and Group Call Pickup keys. No second dial tone is given after the key is pressed, nor is it given after the SPRE code is dialed.

Operating parameters

Group 0 (zero) is not a valid group number. A telephone that is not part of any group is assigned by default to group 0 (zero).

Feature interactions

Automatic Call Distribution (ACD)

ACD DN's are not supported by Directed Call Pickup.

Flexible Feature Code (FFC)

FFC codes are not supported on a Meridian 1 proprietary telephone during an attempt to pick up a Dial Intercom ringing call.

Multi-Party Operations – Three-Party Service

Users of analog (500/2500 type) telephones involved in a Three-Party Service call cannot pick up another call by dialing the SPRE code.

Feature packaging

Directed Call Pickup (DCP) package 115 has no feature package requirements.

Feature implementation

LD 15 – Define the number of digits dialed for Call Pickup groups.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(COX), COP	CO no priority or call priority for Call Pickup and Group Call Pickup.
- PKND	(1)-4	Number of digits dialed for Group Pickup. Prompted only if DCP is equipped.

LD 10 – Add or change Analog (500/2500 type) telephones to allow DCP Class of Service.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
RNPG	0-4095	Call Pickup Group. 0 = no pickup group.
CLS	(GPUD), GPU (DPUD), DPUA	(Deny) allow Group Pickup. (Deny) allow DN Pickup.

LD 11 – Add or change Meridian 1 proprietary telephones to allow Directed Call Pickup Class of Service.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
RNPG	0-4095	Call Pickup Group. 0 = no pickup group.
CLS	(GPUD), GPU (DPUD), DPUA	(Deny) allow Group Pickup. (Deny) allow DN Pickup.
KEY	xx GPU xx DPU	Group Pickup key (not available on M3000). DN Pickup key (not available on M3000).

Feature operation

To answer a call in another Call Pickup group from a Meridian 1 proprietary telephone, follow these steps:

- 1 Lift the handset.
- 2 Press **GRP Pickup** or dial SPRE + 94 or PUGR FFC.
- 3 Dial the pickup group number.

To answer a call on a specified DN from a Meridian 1 proprietary telephone:

- 1 Lift the handset.
- 2 Press **DN Pickup** or dial SPRE + 95 or PUDN FFC.
- 3 Dial the extension number.

To answer a call in another Call Pickup group from an Analog (500/2500 type) telephone, follow these steps:

- 1 Lift the handset and dial SPRE + 94 or PUGR FFC.
- 2 Dial the pickup group number.

To answer a call on a specified DN from an analog (500/2500 type) telephone:

- 1 Lift the handset and dial SPRE + 95 or PUDN FFC.
- 2 Dial the extension number.

Call Redirection by Time of Day

Call Redirection by Time of Day (CRTOD) adds flexibility to the existing operations of Call Forward No Answer, Hunting and Call Forward by Call Type by allowing incoming calls to be automatically redirected to a predefined Directory Number at a specified time of day.

When the Call Redirection by Time of Day (CRTOD) feature is activated, incoming calls are automatically redirected to a Directory Number through Hunting, Flexible Call Forward No Answer, External Hunt or External Call Forward No Answer. Depending on the time of day, an incoming call can also be redirected to an alternate Directory Number using the Hunting, Call Forward No Answer and Call Forward by Call Type operations.

This feature only changes which redirection Directory Number or alternative Directory Number is used to redirect a call when possible.

Operating parameters

All existing limitations that apply to the operation and redirection of Directory Numbers of Call Forward No Answer and Hunting also apply to this feature.

Only one alternate time option is allowed per telephone set at a given time.

This feature is not supported on Basic Rate Interface (BRI) terminals.

Feature interactions

When incoming calls require redirection, the order of precedence for which the system handles no answer and busy calls, is listed below:

Calls to Idle Stations:

- 1 Call Forward All Calls
- 2 Message Waiting
- 3 Call Forward No Answer
- 4 Attendant Recall

Calls to Busy Stations:

- 1 Call Forward All Calls
- 2 Hunting
- 3 Call Waiting or Camp-On
- 4 Message Waiting Forward Busy
- 5 Call Forward Busy

Call Forward All Calls

Call Forward, Internal

Call Forward/Hunt Override Via FFC

These features take precedence over Call Redirection by Time of Day (CRTOD).

Call Forward by Call Type

Hunting by Call Type

If Call Forward by Call Type (CFCT) is enabled with Call Forward No Answer (CFNA) and Call Redirection by Time of Day (CRTOD), unanswered internal calls receiving CFNA are routed to the Flexible CFNA DN, Hunt DN, Alternate Flexible CFNA DN or Alternate Hunt DN's. External calls are routed in the same manner.

If CFNA is enabled with Hunting by Call Type and Call Redirection by Time of Day (CRTOD), unanswered internal calls are redirected to the Hunt DN or Alternate Hunt DN during the alternative time. External calls are routed in the same manner. The alternate time is defined on the called DN's data block.

Call Forward No Answer

Call redirection parameters for Call Forward No Answer are obtained from the originally dialed Directory Number. When CRTOD is activated, unanswered calls given CRTOD treatment are forwarded with CFNA according to the time of day. No changes are made to the existing CFNA feature.

Call Forward No Answer, Second Level

Existing Second Level CFNA allows unanswered calls to receive Call Forward No Answer treatment twice. CRTOD parameters are obtained from the last rung Directory Number. A maximum of two levels of CFNA is allowed for an unanswered call.

Call Waiting Redirection

When Call Forward No Answer occurs on a waiting call, the redirected Directory Number used depends on the time of day if CRTOD is activated.

Multiple Appearance DN Redirection Prime

When CRTOD and Multiple Appearance DN Redirection Prime (MARP) are activated, Call Forward or Hunt are dependent on the time of day and follows the MARP feature for Call Forward No Answer or Hunt treatment.

Hunting

When CRTOD is enabled and an incoming call reaches a busy Directory Number, the time is checked against the Alternate Redirection Time Option range defined on the telephone.

User Selectable Call Redirection

User Selectable Call Redirection is not supported.

Feature packaging

Call Redirection by Time of Day is included in base system software.

Feature Implementation

LD 15 - Customer Data Block to set up Alternative Redirection Time.

Prompt	Response	Description
REQ:	CHG	Change.
TYPE:	RDR	Change Call Redirection.
CUST	xx	Customer number.
...		
- CRTOD	YES	Call Redirection by Time of Day. Alternate time option prompts are skipped if (NO) or <CR> is entered
- - CRT0	SH SM EH EM	Alternate time option 0, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT1	SH SM EH EM	Alternate time option 1, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT2	SH SM EH EM	Alternate time option 2, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.
- - CRT3	SH SM EH EM	Alternate time option 3, where: SH = starttime in hours, SM = starttime in minutes, EH = endtime in hours and EM = endtime in minutes in international time format (hour from 00-23 and minute 00-59). Enter "X" to remove current value and reset both the start time and end time equal to 0.

LD 10 - Add or Change Terminal Number Block for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ:	NEW, CHG	Analog telephone can be defined or modified.
TYPE:	500	Analog (500/2500 type) telephone data block.
...		
CLS	RTDA	Call Redirection by the Time of Day allowed. If CLS = RTDD (denied) then RTDA, AEFD, AEHT, AFDN, AHNT will be removed and ARTO prompt will be reset to 0.
...		
ARTO	(0)-3	Alternate Redirection Time Option for call redirection defined in the Customer Data Block. Only prompted if CLS = RTDA. Default value 0 is entered if request is new. The value is not changed if request is CHG. <CR> to enter CLS and ARTO data.
FTR	xxxx yyyy	Enter Feature Name and Related Data.
	AFD	Alternate Call Forward No Answer DN up to 13 digits. Remove by setting CLS = RTDD.
	AHNT	Alternate Hunt DN up to 13 digits. Remove by setting CLS = RTDD.
	AEFD	Alternate External Call Forward No Answer DN up to 13 digits. Remove by setting CLS = CFTD or RTDD.
	AEHT	Alternate External Hunt up to 13 digits. Remove by setting CLS = CFTD or RTDD.

LD 11 - Add or Change Terminal Number Block for Meridian 1 proprietary telephones

Prompt	Response	Description
REQ:	NEW, CHG	Add, or change
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
...		
CLS	RTDA	Call Redirection by the Time of Day allowed.
...		
ARTO	(0)-3	Alternate Redirection Time Option for call redirection defined in the Customer Data Block. Only prompted if CLS = RTDA. Default value 0 is entered if request is new. The value is not changed if the request = CHG. <CR> to enter CLS and ARTO data.
AFD	xxxx	Alternate Call Forward No Answer DN up to 13 digits. Remove by setting CLS = RTDD.
AHNT	xxxx	Alternate Hunt DN up to 13 digits. Remove by setting CLS = RTDD.
AEFD	xxxx	Alternate External Call Forward No Answer DN up to 13 digits. Remove by setting CLS = CFTD or RTDD. Requires Call Forward by Call Type Allowed (CFTA) Class of Service.
AEHT	xxxx	Alternate External Hunt up to 13 digits. Remove by setting CLS = CFTD or RTDD. Requires Call Forward by Call Type Allowed (CFTA) Class of Service.

Feature operation

No specific operating procedures are required to use this feature.

Call Transfer

Call Transfer allows a telephone user on any two-party call to hold the existing call and originate another call to a third party. The user may consult privately or transfer the original call to the third party. A call is transferred by pressing a dedicated key on Meridian 1 proprietary telephones or by flashing the switchhook on analog (500/2500 type) telephones.

Operating parameters

A separate Call Transfer key/lamp pair must be assigned to Meridian 1 proprietary telephones.

A transfer allowed Class of Service must be specified for analog (500/2500 type) telephones to access this feature.

If trunks are involved, successful completion of a transfer depends on the access restrictions assigned to the stations and trunks.

While the originating side of a call is linked to a transfer or conference key (i.e., the originator of a transfer/conference call has not yet completed the transfer/conference), the terminating side cannot initiate a transfer or conference. Conference calls cannot be transferred.

Feature interactions

Advice of Charge for EuroISDN

When a set is connected to an ISDN CO trunk conveying AOC charging information, the received call charging information is stored against this set.

If the user transfers the call while the dialed set is still ringing, call charging information is stored against the transferring set until the call is either answered or abandoned by the external party. If the user consults with the dialed transfer set, charging information is stored against the transferring set until the call is either answered or abandoned. If the transferred call is redirected by a call redirection feature, the call is charged against the transferring set until the call transfer is completed and the call is answered. In all instances, if the call is answered, new call charging information is stored against the set receiving the transferred call.

Attendant Break-In

Until a transferred call is connected, the attendant cannot break in to a call that is being transferred.

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the Call Transfer (TRN) key is ignored if pressed.

Call Forward, Break-In and Hunt Internal or External Network Wide

The treatment of a call following a call transfer (Call Forward/Hunt by Call Type) is based on the transferring set and the call originator's set.

Call Page Network Wide

A station set or Attendant Console that transfers an external PAGENET uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Calling Party Privacy

If an incoming non-ISDN call is being transferred or an incoming ISDN call is transferred to a non-ISDN trunk, the Calling Party Name and Number will not be passed on to the terminating set. The CPP feature will not change this operation.

For cases where an incoming call with the Privacy Indicator is transferred over an MCDN trunk, or to a local station, the name and/or number of the originating party will not be displayed on the set of the final terminating party.

Call Transfer

Call Completion notification is only presented to the Call Completion originating set. This notification cannot be transferred to another station. Once the second call is completed, the call can be transferred.

If a user encounters a busy or no answer situation during a transfer operation, Call Completion can be activated.

Conference

You can also transfer calls using the Conference key, but not until the third party answers the call. After you initiate a transfer and the third party answers, you can establish a three-way conference by pressing the Conference key, if equipped.

Hold

A consultation call can be placed on Hold.

ISDN QSIG Name Display

After the completion of a call transfer, an incoming QSIG call with name display presentation allowed has name information displayed on the destination set. If the incoming QSIG call has presentation denied, name information is not displayed to the destination set.

Multi-Party Operations

Analog (500/2500 type) telephones with TSA Class of Service can Call Transfer by going on-hook after establishing a conference. This differs from operation with XFA Class of service, where transfer can be achieved by going on-hook during Consultation connection.

If an analog (500/2500 type) telephone with TSA Class of Service goes on-hook during consultation connection, it is treated as mis-operation of All Other Cases and the recovery actions are done based on the CCDO and AOCS options selected in LD 15. If CDOC = NO, an analog (500/2500 type) telephone can achieve a transfer by going on-hook after establishing a conference.

Predictive Dialing

Transfer by Meridian 1 proprietary Set

The application sends the Fast Transfer request on behalf of a Meridian 1 proprietary set, and then the switch initiates and completes the transfer immediately which is similar to a normal call transfer from a Meridian 1 proprietary set.

In a Predictive Dialing scenario where the autodialer (origination DN) is a Meridian 1 proprietary set, the Make Call message sent by the application to the switch to make a call on behalf of the Meridian 1 proprietary set, and then the call transfer call, will interact with the Meridian 1 proprietary Call Transfer feature. The autodialer is configured with Class of Service TRN so that the switch can transfer the call to the target destination.

Transfer by Analog (500/2500 type)Set

The application sends the Fast Transfer request on behalf of an analog (500/2500 type) set. The switch will then initiate and complete the transfer in one step.

In a predictive dialing scenario, the application will send the Make Call request on behalf of the autodialer (analog [500/2500 type] set) to have the switch make the call, and then transfer the call when the switch receives the Fast Transfer message. The autodialer needs to be configured with Classes of Service Dial Pulse (DIP) and Transfer Allowed (XFA) for 500 sets, or with Classes of Service Digitone (DTN) and XFA for 2500 sets.

Supervised Analog Lines

If more than one active call is extended to an analog line, the call type associated with an analog line is determined by the first active call. The call type is assumed to be incoming and hook flash supervision applies if a terminal device answers an incoming call from an idle state. If the terminal device performs a switch hook flash to put the first party on hold and initiates a consultation call, the Battery Reversal feature is not supported; no battery reversal answer signal is extended to the terminal device when the second party answers.

If the first party disconnects while the terminal device is connected to the second party, no disconnect supervision is extended to the terminal device. However, hook flash disconnect supervision is extended to the terminal device when the second party disconnects (i.e., a disconnect supervision signal is sent only when the last party connected to the terminal disconnects).

If a terminal device originates an outgoing call, battery reversal answer supervision is extended when the called party answers. The polarity of the line remains reversed polarity when the terminal device performs a switch hook flash and then initiates a consultation call to a second party. The analog line is reverted to normal polarity when the terminal device completes the transfer and drops out or when the last of either the held party or the consultation party disconnects.

Three-Party Service

The party receiving the patience tone or the Misoperation ringback is not able to make a call transfer.

Trunk Barring

The originator of a call transfer, unless otherwise restricted, is able to connect to a denied party on a consultation basis. Operating the Transfer key on a Meridian 1 proprietary telephone or going on hook on an analog (500/2500 type) telephone does not result in a call transfer if the Originating Trunk Connection is barred. The user of a Meridian 1 proprietary telephone remains connected to the denied party until releasing the connection and returning to the held Originating Trunk Connection. The user of an analog (500/2500 type) telephone is re-rung by the Originating Trunk Connection when transfer is attempted and denied.

Trunk to Trunk Connection

To transfer an external trunk on ringing across a supervised analog network TIE trunk, the external trunk and internal TIE line must have both answer and disconnect supervision, and the external call must be established. To transfer one outgoing external trunk to another, both external trunks must have answer and disconnect supervision, and both external calls must be established.

Feature packaging

Call Transfer is included in base system software.

Feature implementation

LD 10 – Allow/deny Call Transfer for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow Call Transfer.

LD 11 – Add a Call Transfer key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx TRN	Add a Call Transfer key (the M2317 and M3000 must use key 26).

Feature operation

To transfer an active call on a Meridian 1 proprietary telephone, follow these steps:

- 1 Press **Transfer**.
The call is on hold.
- 2 Dial the number where you want to transfer the call.
- 3 Press **Transfer** when you hear ringing or after your call is answered.
When your call is answered, you may speak privately with the new party before completing the transfer.

Note: To cancel an incomplete transfer, press the key beside the fast flashing indicator and you return to the call you tried to transfer. To conference all three parties, press the Conference key, if equipped.

To transfer an active call on an analog (500/2500 type) telephone, follow these steps:

- 1** Flash the switchhook.
The call is on hold.
- 2** Dial the number where you want to transfer the call.
- 3** Flash the switchhook when you hear ringing or after your call is answered.

When your call is answered, you may speak privately with the new party before completing the transfer.

Note: To cancel an incomplete transfer, hang up, then lift the handset and flash the switchhook to return to the call.

Restricted Call Transfer

This feature provides the Call Transfer Restricted (XFR) Class of Service for analog (500/2500 type) telephones. By assigning XFR Class of Service in LD 10, a call transfer attempt will not result in action. This is different from the Call Transfer Denied (XFD) Class of Service, which will route the call to the attendant when a transfer is attempted.

Feature requirements

The Three-Party Service Allowed Class of Service, part of the Multi-Party Operations feature, cannot be used together with the XFR Class of Service.

Feature interactions

There are no interactions with other features.

Feature packaging

Call Transfer is included in base system software.

Feature implementation

LD 10 – Define two new options for an analog (500/2500 type) telephone.

Prompt	Response	Description
...		
CLS	XFR	Restrict call transfers and do not recall to attendant.

Feature operation

With this feature enabled, users of analog (500/2500 type) sets will not be able to transfer calls. Attempted call transfers are not routed to the attendant.

Call Waiting/Internal Call Waiting

Call Waiting notifies a telephone user on an established call (internal or external) that an external call is waiting to be answered. Meridian 1 proprietary telephones must have a Call Waiting key/lamp pair assigned and a Class of Service that allows a warning tone. Call Waiting is applicable to the Prime DN or any single appearance DN on the telephone. When an external call comes into a Meridian 1 proprietary telephone and the telephone user is on a call, the Call Waiting lamp flashes and a buzz sounds through the telephone's speaker.

To use Call Waiting, analog (500/2500 type) telephones must have a Class of Service that allows Call Waiting and a warning tone. Two tone bursts are received through the handset to advise an analog (500/2500 type) telephone user of a waiting call. Note that the two calls cannot be conferenced together.

Call Waiting applies to Direct Inward Dialing (DID), Central Office (CO), Foreign Exchange (FX), and Wide Area Telephone Service (WATS) trunk calls extended to a busy telephone by the attendant. Call Waiting also applies to calls on TIE and Common Control Switching Arrangement (CCSA) trunks.

Internal Call Waiting

This feature provides Call Waiting for internal calls. This option, defined on a per-telephone basis, allows Call Waiting for calls from other telephones within the customer group. These calls include the following:

- direct telephone-to-telephone calls
- attendant-extended internal calls, and
- telephone-to-telephone call transfer of all trunk and internal calls.

Call Waiting Flexible Feature Codes

A user may activate Call Waiting from an analog (500/2500 type) telephone with Call Waiting Class of Service by dialing the Call Waiting Activate (CWGA) FFC (defined in LD 57). To deactivate Call Waiting, the user dials either the Call Waiting Deactivate (CWGD) FFC (defined in LD 57) or the general Deactivate (DEAF) FFC (also defined in LD 57).

If Call Waiting is deactivated using FFCs, then station-to-station call waiting is also deactivated at the telephone.

If the Class of Service is CWA, ACTIV or DEACT will be printed in brackets when CWT is activated or deactivated.

The CWT FFCs do not affect Precedence Call Waiting.

Operating parameters

A Meridian 1 proprietary telephone can have only one working Call Waiting key/lamp pair.

Telephones with internal telephone-to-telephone Call Waiting must also have external Call Waiting (CWA) Class of Service.

A Call Waiting indication is not presented to a single-line telephone in the transfer or conference mode.

An analog (500/2500 type) telephone user receiving a second call can connect alternately to the original call and the Call Waiting call by a switchhook flash. The user cannot transfer or conference either call.

When a second call goes to a telephone that already has a Call Waiting call, the second call is recalled to the attendant if it is not answered by the number of rings defined in the Customer Data Block (RTIM prompt, field zz).

An analog (500/2500 type) telephone user who has received a Call Waiting call routed from the attendant cannot reconnect to the original call until it has been released from the console.

Attendant Administration does not support the Internal Call Waiting feature.

If a call is waiting and Call Waiting is deactivated using the Call Waiting Deactivate (CWGD) FFC, the call that is waiting is allowed to continue waiting while any new calls will not be allowed to wait.

Feature interactions

Advice of Charge for EuroISDN

When an Advice of Charge call is transferred to a busy set with Call Waiting Allowed, the transferring station is charged until the call is answered.

Attendant Blocking of Directory Number

If a set that has the Station-to-station Call Waiting feature active (CLS SWA and a Call Waiting (CWT) key for SL-1 and digital sets) is idle when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be allowed and processed as normal. If the DN is idle and there is an active call on the Call Waiting key, the Attendant Blocking of DN attempt will be allowed.

If a set has the Station-to-station Call Waiting feature active and the DN to be blocked is busy when an Attendant Blocking of DN attempt is made, the Attendant Blocking of DN attempt will be canceled and busy tone will be returned.

For a set that has the Call Waiting (or Station-to-station Call Waiting) feature active and a DN is blocked due to the Attendant Blocking of DN feature, any incoming call to the blocked DN will receive busy tone.

Attendant Break-In

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Attendant Queuing

Call Waiting options do not apply to calls queued to a specified attendant. The exception to this is the display call waiting key, which shows the number of calls in the overall attendant queue and the calls in the queue for a specified attendant.

Call Forward All Calls and Hunting

Call Forward All Calls and Hunting take precedence over Call Waiting.

Call Forward No Answer

If a call to a telephone gets CFNA treatment to another telephone which is busy, Call Waiting and Camp-On do not apply. The call will attempt to terminate on the original DN again.

Call Waiting Redirection

The option selected for Call Waiting Redirection treatment also applies to calls given Internal Call Waiting treatment.

Camp-On

Call Waiting and Camp-On are mutually exclusive. If a Call Waiting Class of Service or key is defined, Camp-On cannot be provided.

Directory Number Delayed Ringing

Call Waiting tones apply to SCN/MCN keys as per existing operation. The Directory Number Delayed Ringing (DNDR) feature does not apply, and the user is informed of the incoming call immediately.

Enhanced Night Service

Call Waiting will be applied by Enhanced Night Service to terminate incoming Night calls to busy Night DNs. This will still be done even if the Night DN is an analog (500/2500 type) telephone with Call Waiting Denied (CWD) Class of Service, or if the Night DN is a Meridian 1 proprietary telephone without a Call Waiting (CWT) key assigned.

All telephones will be given Night Call Waiting tone, if the NWT prompt in overlay 15 was responded to with "YES," regardless of the Warning Tone (WTA/WTG) Class of Service setting of the telephone. Meridian 1 proprietary telephones will be given Night Call Waiting tone in the handset instead of the speaker buzz given for Call Waiting.

Flexible Feature Code enhancement

The Call Waiting Deactivate (CWGD) FFC may be used to deactivate Call Waiting. If a call is waiting when Call Waiting is deactivated, the call is allowed to continue waiting while any new calls will not be allowed to wait.

Flexible Voice/Data Terminal Number

Call Waiting is not supported on data calls to a dynamic voice/ data TN. Call Waiting is supported for voice calls to dynamic voice/ data TN.

Hunting

If a call comes into a busy DN, it begins the hunting route defined from the called DN. If there are idle DNs on the hunting route, the call becomes a Call Waiting call on the called DN.

ISDN Night Service

If a call is diverted to a third-party operator Night DN that is busy, Call Waiting may be activated (if equipped). The call to the third-party operator PBX is released.

ISDN QSIG Call Completion

On an Analog (500/2500 type) set, Call Completion notification waits until the set has finished an active call. If Call Waiting is configured on a set, notification is presented after the Call Waiting call. If an additional call is queued while Ring Again free notification is waiting on a set, the waiting call takes precedence over the Call Completion notification. An established Call Completion call is also queued if a set has Call Waiting feature equipped and is occupied on another call.

Message Center

Call Waiting calls are not forwarded to a Message Center.

Multi-Party Operations

A user of an analog (500/2500 type) telephone can answer a Call Waiting call, thereby establishing a consultation connection. The user can dial control digits, as normal. To toggle the calls, the toggle control digit must be used rather than a switchhook flash.

Multi-Party Operations – Three-Party Service

An analog (500/2500 type) telephone cannot have Call Waiting during the patience tone.

Ring Again

The user is notified that a previously busy line is free only when both the original call and the waiting call have disconnected.

Station Camp-on

Call Waiting takes precedence over Station Camp-On.

Feature packaging

Call Waiting/Internal Call Waiting is included in base system software.

For Call Waiting FFCs, the following packages are required:

- Flexible Feature Codes (FFC) package 139, and
- Background Terminal Facility (BGD) package 99.

Feature implementation

LD 10 – Allow/deny Call Waiting for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(CWD), CWA (SWD), SWA (WTA), WTD	(Deny) allow Call Waiting. (Deny) allow internal Call Waiting (if SWA is defined, CWA must also be defined). (Allow) deny warning tone.

LD 11 – Allow/deny Call Waiting for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(SWD), SWA (WTA), WTD	(Deny) allow internal Call Waiting. (Allow) deny warning tone.
KEY	xx CWT	Add a Call Waiting key (the M3000 must use key 24).

LD 10 – Define Call Waiting for an analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	NEW, CHG	Add, change.
TYPE	500	Telephone type.
CUST	0	Customer number.
...		
CLS	CWA	Call Waiting Allowed Class of Service.

Feature operation

To answer a Call Waiting call on Meridian 1 proprietary telephones, follow these steps:

- 1 Press **Hold** when you hear a tone during a phone call.
- 2 Press **Call Wait** to answer the waiting call.

To return to your first call, follow these steps:

- 1 Press **Hold** if you want to put your second call on Hold.
- 2 Press the extension key that has the first call on it.

To answer a Call Waiting call on analog (500/2500 type) telephones, follow these steps:

- Flash the switchhook when you hear a beep during a phone call.
Your current call is on Hold and you are connected to the waiting call.

To return to your first call:

- Flash the switchhook.

The following instructions are for using Call Waiting FFCs:

- Allow – The user must dial the Call Waiting Activate (CWGA) FFC.
- Disallow – The user must dial the Call Waiting Deactivate (ATDD) FFC or the Deactivate (DEAF) FFC.

- Use prerequisites – To set Call Waiting, the telephone must have Call Waiting Allowed (CWA) Class of Service.

Call Waiting Redirection

Previously, Call Waiting notified an active set that a second call was waiting to be answered on that DN. For non-attendant extended calls, the incoming call received Call Waiting treatment until the call was answered by the called party or the calling party disconnected. For attendant-extended calls, the incoming call received Call Waiting treatment until the Call Waiting Recall timer timed out, at which time the call was recalled to the attendant. The attendant had to then extend the call to a message center or voice mail. However, since the attendant was given no indication as the reason for the recall (called party busy or not answering), it was difficult for the attendant to redirect the call properly.

The Call Waiting Redirection feature follows the Call Forward No Answer (CFNA) treatment defined for the DN. No modifications have been made; all existing Call Forward No Answer functionalities will apply to redirected calls.

Operating parameters

The existing Call Waiting and Call Forward No Answer limitations apply to the Call Waiting Redirection feature. The Call Forward No Answer feature is used by the Call Waiting Redirection feature to redirect “no answer” calls given Call Waiting treatment.

Although the Call Waiting treatment is applied to a busy DN, the CFNA call redirection treatment given by the Call Waiting Redirection feature is for a “no answer” presentation. The unanswered Call Waiting call is treated as a call presented to an idle “no answered” DN. Calls redirected to messaging services or sets with displays are provided with the “no answer” call redirection reason.

The existing implementation of Call Forward No Answer is used to select the TN with the CFNA DN for the “no answer” Call Waiting call. Calls are redirected according to the call type (internal or external) as defined at the designated call redirection TN chosen by CFNA.

Feature interactions

Automatic Timed Reminders

Automatic Timed Recalls

When CFNA is active, the Slow Answer Recall timer begins only after the call reaches its final destination. CFNA has precedence over Attendant Recall for attendant-extended calls. Irrespective of the relative time-out intervals for each feature, ringing continues as long as allowed by CFNA for sets with CFNA enabled.

Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Basic Rate Interface

The Call Waiting Redirection feature is not applicable to Basic Rate Interface (BRI) terminals. However, an ISDN BRI terminal may redirect a call using hunting or CFNA.

Call Forward All Calls

Internal Call Forward

Call Forward All Calls and Internal Call Forward both have precedence over Call Waiting and the Call Waiting Redirection feature.

Call Forward and Hunt by Call Type

If Call Forward and Hunt by Call Type (CFCT) is enabled with Call Forward No Answer and Call Waiting Redirection, “no answer” internal calls receiving Call Waiting treatment are routed for CFNA treatment to the Flexible CFNA DN (FDN) or Hunt DN, and “no answer” external calls are routed for CFNA treatment to the External Flexible CFNA DN (EFD) or External Hunt DN (EHT).

Call Forward/Hunt Override via Flexible Feature Code (CFHO)

There is no interaction with the Call Waiting treatment component of the Call Waiting Redirection feature. However, Call Forward/Hunt Override via Flexible Feature Code does override CFNA, and thus the CFNA treatment given to unanswered Call Waiting calls by the Call Waiting Redirection feature is overridden by the CFHO feature. The incoming call will continue to be given Call Waiting treatment as if the Call Waiting Redirection feature is disabled when the CFHO feature is enabled by the calling party.

Call Forward No Answer (CFNA)

Per existing Call Forward No Answer feature operation, the call redirection parameters for CFNA are obtained from the originally dialed DN.

Call Redirection by Time of Day (CRTOD)

When Call Forward No Answer occurs on a waiting call, the redirected Directory Number used depends on the time of day if CRTOD is activated.

Camp-On

There is no interaction as Call Waiting and Camp-On are mutually exclusive.

Distinctive Ringing**New Distinctive Ringing Call Forward No Answer (DFNA)**

The existing Distinctive Ringing CFNA feature is applied to calls from a Distinctive Ringing enabled trunk. If such an incoming call is receiving Call Waiting treatment on sets with Distinctive Ringing, CFNA, and the Call Waiting Redirection feature enabled, the DFNA timer is applied to the call instead of the CFNA timer. The Call Waiting warning tone, if enabled, is not changed by Distinctive Ringing. If that call is not answered before the expiration of the DFNA timer, CFNA treatment is given via the Call Waiting Redirection feature.

Internal or Station-to-Station Call Waiting

The option selected for Call Waiting Redirection treatment also applies to calls given Internal Call Waiting treatment.

Message Center

Unanswered calls given Call Waiting treatment may now be allowed by the Call Waiting Redirection feature to be forwarded to a CFNA DN which may be a Message Center. The call redirection reason is “no answer”.

Message Waiting

Message Waiting has precedence over CFNA and Attendant Recall for attendant-extended calls. Unanswered calls given Call Waiting treatment are forwarded to the Flexible CFNA DN by the Call Waiting Redirection feature.

Multi-Party Operations

Recovery on Misoperation of Call Transfer – Call Transfer with Ring No Answer (RGNA)

If the transferring party goes on-hook to complete the Call Transfer (i.e., blind transfer) before the “transferred to” or called party answers the Call Waiting call, an RGNA Mis-operation of Call Transfer is detected by Multi-Party Operations (MPO).

With the Call Waiting Redirection feature enabled, if the blind transfer completes after the CFNA timer applied by Call Waiting Redirection has expired, there is no interaction as the Call Waiting Redirection feature is done and has already redirected the unanswered Call Waiting call to the CFNA DN.

If the blind transfer completes before the Call Waiting Redirection CFNA timer expires and the RGNA option is defined to be:

- 1** Standard (STD, i.e., operation as it was prior to introduction of MPO), there is no interaction, as Call Waiting Redirection will redirect the unanswered Call Waiting call when the CFNA timer expires.
- 2** Non-STD (i.e., ATN, DIS, OVF, AAR, or DAR), the RGNA option has precedence over CFNA and thus has priority over Call Waiting Redirection’s CFNA treatment.

Recovery on Misoperation of Call Transfer – Misoperation of Call Transfer for All Other Cases

This type of misoperation occurs when the transferring party attempts to complete the transfer in several other non-RGNA scenarios. There is no interaction with these Multi-Party Operations scenarios and the Call Waiting Redirection feature.

Multiple Appearance DN (MADN)

The Call Waiting Redirection feature applies to unanswered Call Waiting calls which apply to single appearance DNs and primary appearance DNs of MADNs.

MADN Redirection Prime (MARP)

If the MARP feature is activated, the CFNA treatment given by Call Waiting Redirection for an unanswered Call Waiting call follows the MARP feature for CFNA treatment of calls to an idle DN.

Network Call Redirection

Incoming calls receiving Call Waiting Redirection treatment can be redirected over the network only if the trunk-to-trunk connection is already supported per the existing Network Call Redirection feature.

Network Call Forward No Answer

Existing Network CFNA treatment is applied to calls receiving Call Waiting treatment on sets with CFNA and the Call Waiting Redirection feature enabled if the Call Waiting call is not answered before the expiration of the CFNA timer and the CFNA DN is on another node.

Night Service and Night Service Enhancements

Night Service has the same interaction with the Call Waiting Redirection feature as attendant-extended calls. Since the Call Waiting Redirection feature applies CFNA treatment to a Call Waiting call, the Call Waiting Redirection feature also has precedence over the Call Waiting recall timer.

Second Level Call Forward No Answer (SFNA)

The existing Second Level CFNA treatment is applicable to Call Waiting calls redirected by CFNA (first level) with the Call Waiting Redirection feature which are still not answered at the last rung DN.

Voice Mail

Unanswered calls given Call Waiting treatment may now be allowed to forward to Voice Mail through the activation of the Call Waiting Redirection feature. The greeting given to the caller is for a “no answer” condition.

Feature packaging

Call Waiting Redirection is included in base system software.

Feature implementation

LD 15 – Configure the CFNA treatment, the number of ringing cycles for CFNA, and the Call Waiting Redirection option:

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDR	Gate opener.
CUST	0-99	Customer number.
- OPT	CWRA	Call Waiting Redirection Allowed. Allow Call Forward No Answer treatment for unanswered Call Waiting calls on a DN.
...		
FNAD	(HNT), ATT, NO, FDN	Call Forward No Answer treatment for DID calls.
FNAT	(HNT), ATT, NO, FDN	Call Forward No Answer treatment for external calls (non-DID).
FNAL	(HNT), ATT, NO FDN	Call Forward No Answer treatment for internal non Direct Inward Dialing calls.
...		
CFN0	1-(4)-15	Call Forward No Answer timers; number of normal ringing cycles for CFNA Options 0, 1, and 2.
CFN1	1-(4)-15	
CFN2	1-(4)-15	
DFN0	1-(4)-15	Distinctive Ringing CFNA timers; number of distinctive ringing cycles for CFNA Options 0, 1, and 2.
DFN1	1-(4)-15	
DFN2	1-(4)-15	

LD 10 – Configure Call Waiting, and Call Forward No Answer for analog (500/2500 type) telephones:

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u c u	Terminal Number. Terminal Number for the Option 11.
HUNT	xxx..x	Hunt DN. If the Call Forward No Answer treatments set up in LD 15 are set to HNT, the Hunt DN should be configured.
CLS	(CWD), CWA	Call Waiting external (denied) allowed.
	(SWD), SWA	Internal (Station-to-Station) Call Waiting (denied) allowed. If SWA is defined, CWA must also be defined.
	(WTA), WTD	Warning tone (allowed) denied.
	(FND), FNA	Call Forward No Answer (denied) allowed.
RCO	(0)-2	Ringling cycle option for Call Forward No Answer. Prompted when CLS = FNA, or MWA (or both). RCO must be set to a value other than 0 for Call Waiting Redirection to operate.
FTR	aaaa	Enter the feature and related data.
	FDN xxx ..x	Flexible CFNA DN. If the CFNA treatments set up in LD 15 are set to FDN, the Flexible CFNA DN should be configured.

LD 11 – Configure Call Waiting, and Call Forward No Answer for Meridian 1 proprietary telephones:

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	l s c u	Terminal Number.
FDN	xxx..x	Flexible CFNA DN. If the CFNA treatments set up in LD 15 are set to FDN, the Flexible CFNA DN should be configured.
CLS	(SWD), SWA	Internal (Station-to-Station) Call Waiting (denied) allowed. SWA does not need to exist to have external Call Waiting.
	(WTA), WTD	Warning tone (allowed) denied.
	(FND), FNA	Call Forward No Answer (denied) allowed.
RCO	(0)-2	Ring cycle option for Call Forward No Answer. Prompted when CLS = FNA, or MWA (or both). RCO must be set to a value other than 0 for Call Waiting Redirection to operate.
HUNT	xxx..x	Hunt DN. If the Call Forward No Answer treatments set up in LD 15 are set to HNT, the Hunt DN should be configured.
KEY	xx CWT	xx = key number Add a Call Waiting key (the M3000 must use key 24).

Feature operation

No specific operating procedures are required to use this feature.

Called Party Disconnect Control

Called Party Disconnect Control allows a Meridian 1 Option 11C Compact system to control the disconnecting of calls on Central Office (CO), Foreign Exchange (FX), Common Control Switching Arrangement (CCSA), Direct Inward Dialing (DID), TIE, Wide Area telephone Service (WATS), modem, and Centralized Automatic Message Accounting (CAMA) trunks. The trunk route data block has been modified so that a route can be specified for Called Party Disconnect Control.

With Called Party Disconnect Control, an incoming trunk call answered within the Meridian 1 Option 11C Compact is not disconnected until the Meridian 1 Option 11C Compact end goes on-hook. If the calling party goes on-hook, the connection is held, allowing the call to be traced in emergency situations. If the calling party goes off-hook again, the call is not reestablished.

Operating parameters

An incoming call on a trunk route with Called Party Disconnect Control allowed can be transferred to another telephone within the Meridian 1 Option 11C Compact, but cannot be transferred to a trunk.

An incoming call with Called Party Disconnect Control can be forwarded to another telephone, but not to another trunk.

Tandem trunk connections are not allowed on incoming calls on trunks with Called Party Disconnect Control allowed.

If Barge-In or Busy Verify is applied to trunks with Called Party Disconnect allowed, the trunk is disconnected.

Force disconnect, through service change and maintenance, overrides Called Party Disconnect Control.

Feature interactions

Automatic Answerback

Incoming calls on a trunk with Called Party Disconnect Control allowed that terminate on a telephone with Handsfree Answerback are answered automatically. They are not disconnected automatically, however, when the calling party goes on-hook.

Conference

Trunks with Called Party Disconnect Control allowed are treated as trunks without disconnect supervision when conferenced.

Meridian 911 Call Abandon

There is no interaction with M911 Call Abandon and Called Party Disconnect Control.

Feature packaging

Called Party Disconnect Control is included in base system software.

Feature implementation

LD 16 – Define Called Party Disconnect Control for a trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB	Customer Data Block.
CUST	0	Customer number.
CNTL	(NO), YES	(Do not) change the controls or timers.
...		
CPDC	(NO), YES	(Deny) allow Called Party Disconnect Control for the trunk route.

Feature operation

No specific operating procedures are required to use this feature.

Called Party Control on Internal Calls

The Called Party Control on Internal Calls (CPCI) feature allows the called party with Class of Service Malicious Call Trace Allowed to activate Malicious Call Trace (MCT) even after the calling party goes on-hook. When enabled, the calling party is prevented from releasing a call until the called party has initially released. If the calling party goes on hook, the call is put on hold and both parties are given call hold treatment. When the called party activates the call trace request, the calling party's information is printed in the call trace record.

This feature builds on the capabilities of the existing Called Party Disconnect Control (CPDC) and Malicious Call Trace (MCT) features. Called Party Control on Internal Calls is applicable on set to set calls and can be activated during or after a malicious call has occurred.

Operating parameters

This feature is designed for stand alone application only and is not supported across a network. On a set to set call, the calling and the called party must belong to the same customer on the same Meridian 1 Option 11C Compact.

Called Party Control on Internal Calls (CPCI) is not supported on ISDN BRI sets.

If an Attendant Console is the calling party and involved in a call with a set, the CPCI feature functionality is not provided to the call.

The CPCI feature is not supported with features such as Attendant Recall, Override, Call Park and Privacy Release.

If the Meridian 1 Option 11C Compact initializes during an established call, the call remains established. Following initialization, the calling party can successfully release from a connected call prior to the called party releasing.

For this feature, the called party must have a Malicious Call Trace Allowed (MCTA) Class of Service configured in the Customer Data Block (LD 15).

The existing limitations of Malicious Call Trace apply to this feature. When MCT is requested, the information is printed in the call trace record.

If the called party does not release the connection, then the calling party remains established until the called party releases.

Feature interactions

Call Hold, Deluxe

The calling party and called party can put either party on hold. However, the calling party cannot release the call while the called party is on hold. The called party is permitted to release the call.

Held Call Clearing

With Called Party Control on Internal Call enabled, a call on hold is not cleared when the calling party releases. This occurs whether or not the Held Call Clearing feature has been activated.

Feature packaging

Called Party Control on Internal Calls requires the new package Called Party Control on Internal Calls (CPCI) package 310 and also requires Malicious Call Trace (MCT) package 107.

Feature implementation

LD 15 – Configure Called Party Control on Internal Calls in Customer Data Block.

Prompt	Response	Description
REQ:	CHG	Change.
TYPE:	FTR	Change Features and options.
CUST	0	Customer number.
...		
- MCDC	YES	Malicious Call DN/ CLID printing allowed.
CPCI	YES	Called Party Control on Internal Calls allowed. NO = Called Party Control on Internal Calls denied.

LD 57– Configure Malicious Call Trace Flexible Feature Code.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Code data block.
CUST	0	Customer number.
CODE	MTRC	Malicious Call Trace Flexible Feature Code.
MTRC	xxxx	Enter Flexible Feature Code.

LD 10 – Enable Malicious Call Trace on Analog (500/2500 type) sets.

Prompt	Response	Description
REQ:	NEW, CHG	New, or Change.
TYPE:	500	Analog Set Type.
TN	c u	Terminal Number.
CUST	0	Customer number.
...		
CLS	MCTA	Malicious Call Trace allowed. MCTD = Malicious Call Trace denied.

LD 11 – Enable Malicious Call Trace on Meridian 1 proprietary sets.

Prompt	Response	Description
REQ:	NEW, CHG	New, or Change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CUST	0	Customer number.
...		
CLS	MCTA	Malicious Call Trace allowed. MCTD = Malicious Call Trace denied.
KEY	xxx TRC	Key Number, Malicious Call Trace.

Note: For information on the implementation of the Malicious Call Trace feature, refer to the Malicious Call Trace module in this publication.

Feature operation

Feature operation is described in the following scenarios.

Simple Call - Meridian 1 Proprietary Sets

Set A, the calling party, initiates a call to Set B, the called party. Set B has Class of Service Malicious Call Trace Allowed (MCTA) configured. With Called Party Control on Internal Calls (CPCI) activated, Set B can activate Malicious Call Trace even after Set A has gone on-hook. This operation is possible because Set A is not idled until Set B has gone on-hook. Depending on the type of telephone, CPCI activation is done by completing the following:

- 1 Enter the SPRE code and “83” access code;
- 2 Dial the Malicious Call Trace (MCT) Flexible Feature Code (FFC); or
- 3 Activate the Call Trace key.

With Called Party Control on Internal Calls, Set B can activate the Malicious Call Trace feature during an active call between Set A and Set B as well as after Set A has gone on-hook. Set A is not idled until Set B goes on-hook. Prior to Release 22, MCT could not be activated once the calling party went on-hook.

Simple Call - Analog (500/2500 type) Sets

- 1 Flash the switchhook. A special dial tone is heard that signifies the call is on hold.
- 2 Enter the SPRE code and “83” access code.
- 3 Dial the Malicious Call Trace Flexible Feature Code (FFC).
- 4 Go on-hook.

Conference Call

When the calling party and the called party both are involved in a conference call then the following operation is observed.

- 1 A party that called a set with CLS MCTA is only allowed to release if the called party has gone on hook and no other conferee has CLS MCTA or all remaining conferees were originators of a CPCI call.
- 2 In a three party conference between the called party, calling party and the recorder then the recorder is not considered as a conferee. The recorder is treated as a simple call for called party control on internal calls feature.

- 3** In a set to set call, if the called party establishes a conference with a trunk then the called party control on internal calls feature functionality is provided as long as the last called party (with CLS configured as MCTA) which goes on hook is a set rather than a trunk.

Transfer Call

If calling party and the called party are both involved in a simple call and either party tries to transfer the call to another set then the following operation is observed.

- 1** If the called party in a CPCI call attempts to transfer the call to a set with CLS MCTA, it is not allowed to complete its transfer.
- 2** If the called party transfers the call across the network then the called party is allowed to complete its transfer across the network and the transferred to party does not have any control on the calling party.
- 3** If the calling party in a CPCI call attempts to transfer the call to another set, it is not allowed to complete its transfer regardless of that set's Class of Service.

Call on Hold

If calling party and the called party both are involved in a simple call and either party tries to put the call on hold then the following operation is observed.

- 1** If the calling party tries to release the call then the calling party is not allowed to release from the call.
- 2** If the called party tries to release the call then the called party is allowed to release from the call.

Calling Party Privacy

The Calling Party Privacy (CPP) feature enables the Meridian 1 Option 11C Compact to support the blocking of a Calling Party's Number and Name from being displayed at the terminating set on a per-call basis. Users can dial a Calling Party Privacy code (e.g., *67 from a Meridian 1 proprietary set or 1167 from an analog (500/2500 type) set) to prevent their telephone number and name from being displayed on a receiving telephone across the Public Switched Telephone Network (PSTN). Internal calls within the Meridian 1 Option 11C Compact will have originating numbers or names displayed even though the originating call has requested privacy.

This feature also allows a per-line blocking Class of Service to be programmed for station sets for public network calls. This relieves the user from having to dial the Flexible Feature Code (FFC) for every call, but in every other way is equivalent to the per-call blocking.

Depending on the trunk route configuration, public network numbers which tandem over the Meridian 1 Option 11C Compact Meridian Customer Defined Network (MCDN), prior to exiting to the PSTN, Privacy Indicator will be passed along if dialed by the originator. This means that users can be sure that their privacy wishes are respected whether the call exits directly at the originating node, or is given alternate routing through a private network. However, if private network nodes are connected by non Integrated Services Digital Network (ISDN) Electronic Switched Network (ESN) trunks, the complexity of the signaling precludes the transmission of the Privacy Indicator. To compensate for this, outgoing Central Office (CO), Foreign Exchange (FEX), Wide Area Telephone Services (WATS), and Direct Inward Dialing (DID) trunks, may be configured to automatically generate a Privacy Indicator for calls received from incoming non-ISDN trunks.

A Privacy Indicator is used to signify that a call is a Calling Party Privacy call. For an outgoing non-Integrated Services Digital Network (ISDN) trunk call, the Privacy Indicator is defined in the outgoing trunk route as a digit string (e.g., *67). No Privacy Indicator is expected for an incoming non-ISDN trunk call. For an ISDN call between two Meridian 1 Option 11C Compact switches, the Privacy Indicator is represented by setting the Presentation Indicator field to "Presentation Restricted" in the Calling Party Number Information Element (IE) and the Calling Party Name Display (CPND) Indicator to "Presentation Denied" in the Display IE. For an outgoing ISDN call to the Public Exchange/Central Office, the Privacy Indicator is represented by setting the Presentation Indicator field to "Presentation Restricted" in the Calling Party Number IE and excluding the Display IE with the CPND information. An incoming ISDN call is marked as a CPP call (i.e., carries the Privacy Indicator) if the Presentation Indicator field is set to "Presentation Restricted" in the Calling Party IE or the CPND Indicator is set to "Presentation Denied" in the Display IE.

Operating parameters

The code to be dialed by the user can be flexibly defined, although *67 will be usual in North America. Multiple codes can be defined allowing a different code (e.g., 1167) to be used for rotary sets.

The code which is outpulsed on non-ISDN analog or digital trunks can also be flexibly defined on a per-route basis. Different codes can be programmed for routes which mix Digitone (DTN) and Dial Pulse (DIP) Classes of Service.

Frequently, the codes outpulsed on trunks will be the same as those dialed from station sets, but there is no reason why they cannot be different.

A non-ISDN trunk route will not be able to provision the CPP feature if Outpulsing of Asterisk and Octothorpe (OPAO) package 104 is equipped on the switch. During SYSLOAD, the CPP database will be removed from the non-ISDN trunk routes if the OPAO package is equipped.

Central Office Trunk (COT), Foreign Exchange (FEX), Wide Area Telephone Service (WATS), and Direct Inward Dialing (DID) are the only trunk route types allowed to outpulse the Privacy Indicator for an outgoing non-ISDN call.

ISDN implementations include DSM-100/250, SL-100, AT&T4, AT&T5, TR-1268 (NI-2) and Meridian 1 Customer Defined Network (MCDN) private networks.

The Privacy Indicator defined for a non-ISDN trunk route (dial pulse or digitone) consists of any arbitrary digit sequence (0-9) up to four digits in length. The asterisk “*” or octothorpe “#” is not allowed in the Privacy Indicator for an outgoing dial pulse trunk route. The asterisk is only allowed as the first digit of the Privacy Indicator (e.g., *67) for an outgoing digitone trunk route; the octothorpe is not allowed in any Privacy Indicator on an outgoing digitone trunk route.

If as user requests privacy by dialing the Flexible Feature Code (FFC) defined for the CPP feature, and CPP is not provisioned in the outgoing trunk route, the call will proceed without carrying the Privacy Indicator.

No Privacy Indicator is expected to be received from the Public Exchange/ Central Office on non-ISDN DID trunks. This would be treated as a misdial.

The CPP feature will not inhibit the Calling Party Number and Name from being displayed for an internal call within a local Meridian 1 Option 11C Compact customer group.

A common number defined for the Special Prefix (SPRE) code in the database is “1”. Thus, “1167” will not be accepted as an FFC for CPP due to the conflict with existing DNs. The technician should either change the SPRE code, or define a new FFC for CPP to be used by a rotary telephone.

Feature interactions

Autodial

An outgoing trunk call initiated by pressing the Autodial key will carry the Privacy Indicator if the Calling Party Privacy (CPP) code followed by the normal dialing sequence is stored against the Autodial key. The CPP code is counted against the maximum number of digits (currently 23) stored against the Autodial key.

A user can also store the CPP code against the Autodial key. An outgoing CPP call can be initiated by pressing the Autodial key, followed by manually dialing the digits.

An outgoing CPP call can also be initiated by dialing the CPP code, followed by pressing the Autodial key against which the normal dialing sequence of digits have been stored.

Automatic Call Distribution

A call placed by means of Enhanced Automatic Call Distribution (ACD) Routing, Enhanced Interflow, Enhanced Night Call Forward, Enhanced Network Routing, or Network ACD will respect the CPP request of the originator.

Automatic Call Distribution MAX (ACD MAX)

The Calling Line Identification (CLID) is still included in ACD MAX reports, even if the caller has requested CPP.

Automatic Redial

The calling party and called party have the same Calling Party Privacy considerations.

Call Detail Recording

The current Call Detail Recording (CDR) records which include the Calling Party Number will continue to do so even if the caller has requested CPP. The FFC for CPP dialed by the user will be included in the dialed digits field when generating a CDR record.

An outgoing non-ISDN trunk call outputting the Privacy Indicator will include the Privacy Indicator in the outputted digits field when generating the CDR records if the outgoing non-ISDN trunk route has Outputted Digit Option (DPD) activated.

Call Forward All Types Hunt

If an incoming ISDN trunk call with the Privacy Indicator is forwarded, the Privacy Indicator will be tandemmed to the far end to inhibit the display of the Calling Party Name or Number provided that the outgoing trunk route on the tandem node also has CPP provisioned.

If an incoming non-ISDN trunk call is forwarded to a trunk, the outgoing trunk call from the tandem node will carry the Privacy Indicator if the outgoing trunk route on the tandem node has the TCPP option set.

The CPP code can also be stored on the forwarding DN. If the CPP is requested on the forwarding DN, the Privacy Indicator will be outpulsed to the terminating node to inhibit the number of the forwarding set (i.e, at the tandem node) from being displayed on the terminating set. In this case, the forwarding station must include the CPP in the forwarding DN (such as *67 + ACOD + the DN on the terminating node).

The above scenario also applies to Hunt and Network Hunt.

Call Hold, Deluxe

Call Hold, Permanent

When a user takes an incoming trunk call with the Privacy Indicator off of hold, no Calling Party Number or Name will be displayed on the set.

R2MFC CNI/CDR Enhancements

If the Calling Line Identification (CLID) is received with presentation denied, it is not mapped to the Calling Number Identification (CNI). Instead, the CNI is composed of the CNI DN and the Trunk ID. Optionally, the CNI request may set to ECNI (the CNI End-of-CNI R2MFC level 1 forward signal).

Call Pickup

If an incoming trunk call with the Privacy Indicator is picked up locally, the display of the calling Party Number and Name are not displayed on the terminating set.

Call Pickup Network Wide

If an incoming trunk call with the Privacy Indicator is picked up by a remote set (requesting party), the display of the calling Party Number and Name are not displayed on the requesting set.

Call Transfer

If an incoming non-ISDN call is being transferred or an incoming ISDN call is transferred to a non-ISDN trunk, the Calling Party Name and Number will not be passed on to the terminating set. The CPP feature will not change this operation.

For cases where an incoming call with the Privacy Indicator is transferred over an MCDN trunk, or to a local station, the name and/or number of the originating party will not be displayed on the set of the final terminating party.

Calling Line Identification Restriction (CLIR)

The Flexible Feature Code is not supported on BRI sets. Calling Party Privacy can only be requested by setting the soft key “ID PRES” (if it exists) to “Denied” or the “PRES” prompt to “NO” in LD 27. If the Calling Party Number IE with the Presentation Indicator set to “Presentation Allowed” is included in the SETUP message generated by the BRI terminal, this BRI terminal will not allow Calling Party Privacy, as the Presentation Indicator generated by the BRI terminal always overwrites the CLIR service option.

Call Party Name Display (CPND)

In current operations an incoming ISDN call with the Call Party Name Display (CPND) Indicator field set to “Presentation Denied” still displays the Calling Party Name.

The CPP feature will inhibit the display of the Calling Party Name for an incoming ISDN call with the CPND Indicator field set to “Presentation Denied”.

Conference

The CPP feature will pass the Privacy Indicator to the terminating set to inhibit the display of the Calling Party Name and Number if the Conference feature is used for the purpose of performing a transfer.

Calling Party Name Display Denied

For outgoing calls, if the CPP package is equipped, the CPP feature will take precedence over the Calling Party Name Display Denied feature for restricting the Calling Party Name and Number. For example, if an outgoing ISDN call is marked as a CPP call, the outgoing SETUP message will include the Calling Party Number IE with the Presentation Indicator set to “Presentation Restricted” and the Display IE with the CPND Indicator set to “Presentation Denied”, to inhibit both the Calling Party Number and Name being displayed on the terminating set, regardless of whether or not the Calling Party Name Display Denied feature allows the display of the Calling Party Name and/or Number.

The Calling Party Name Display Denied feature takes precedence over the CPP feature for displaying an incoming ISDN call.

EuroISDN Master Mode

If a number presentation for a call is blocked by the Calling Party Privacy feature, the CLID, sent over a EuroISDN Master Mode connectivity, will have the presentation flagged as restricted.

Feature Group D

If an incoming Feature Group D (FGD) call terminates at a Meridian 1 Option 11C Compact switch locally, the received 10-digit Automatic Number Identification (ANI) will be displayed on the terminating set if the Show ANI Digits on Terminal Displays (SHAN) field is set to "YES" in the FGD data block associated with the incoming trunk route. If the originator requests CPP, the end office will not send the 10-digit ANI to the PBX.

If an incoming FGD call is routed to another switch via ISDN Primary Rate Interface (PRI) or Integrated Service Link (ISL), the outgoing SETUP message will include the 10-digit ANI (if it exists) as the Calling Party Number with the Presentation Indicator set to "Presentation Restricted" if the outgoing trunk route has the TCPP option on. The TCPP option takes precedence over the SHAN field defined in the FGD data block associated with the incoming trunk route to restrict the 10-digit ANI display.

Hot Line

A Hot Line call will carry the Privacy Indicator if the Calling Party Privacy (CPP) code followed by the normal dialing sequence is stored in the Hot Line DN. The CPP will count against the maximum number of digits (currently 31) allowed for the Hot Line DN.

Incoming Trunk Programmable CLID

If the incoming trunk route is a non-ISDN route, the billing number assigned by the incoming trunk route will be passed to the Public Exchange/Central Office with the Presentation Indicator field set to "Presentation Restricted" if the outgoing ISDN trunk route has the TCPP prompt set to "YES". If the TCPP prompt is set to "NO", the Presentation Indicator is set to "Presentation Restricted" only if the BDSP (Billing Display) prompt in the incoming trunk route is set to "NO".

If the incoming trunk route is an ISDN route, the “Restricted” Presentation Indicator will be tandemed to the outgoing trunk route. If the Presentation Indicator is set to “Presentation Allowed” or no Calling Party Number IE is received in the incoming trunk route, the billing number assigned by the incoming trunk route will be passed to the Public Exchange/Central Office with the Presentation Indicator field set to “Presentation Restricted” only if the incoming trunk route has the BDSP prompt set to “NO”.

ISDN QSIG Name Display

Calling Party Privacy (CPP) takes precedence over the ISDN QSIG Name Display feature.

Last Number Redial

The Last Number Redial (LNR) feature will store the CPP code in the LNR data space if the CPP code was included in the last number dialed by the user. Any subsequent outgoing redialed call will send the Privacy Indicator to the far end.

Malicious Call Trace

Incoming calls to stations having the Malicious Call Trace feature enabled will continue to include the Terminal Number (TN) of the calling party in the Malicious Call Trace record, even if the caller has requested CPP.

Meridian 1 Link

The CLID is still included in the Application Module Link (AML) messages sent to the Meridian 1 Link Module even if the call has requested CPP.

Meridian Mail

When an incoming ISDN call with the Privacy Indicator terminates on Meridian Mail, the Calling Party Name and Number will not be passed to Meridian Mail to be recorded. When the called party retrieves the messages, no Calling Party Number or Name will be played, and the called party will not be able to initiate the Call Sender feature either, since no CLID is recorded.

Calls placed by means of Through Dial will be able to request privacy. These are calls where the person accessing Meridian Mail can dial 0 followed by any telephone number. The caller will be able to dial the CPP code as part of the number following 0.

Meridian MAX

The CLID is still sent to the Meridian MAX even if the caller has requested CPP.

Meridian 911

An incoming 911 call with ANI information will always display the ANI digits on the terminating set or pass the ANI information to the Meridian 911 application.

Network Message Services

An incoming trunk call with the Privacy Indicator will not display the Calling Party Name and Number on the Message Center operator's terminal.

Network Ring Again

A call placed by means of the Network Ring Again feature will respect the CPP requested when the call was originally dialed.

Private Line Service

The Private Line Service feature will output the Privacy Indicator only if it is dialed by the originator. An asterisk will be output to the far end only if it is an OPAO call, otherwise the asterisk signals a three-second pause.

Ring Again – Busy Trunk

A call automatically redialed by the Ring Again – Busy Trunk feature will respect the CPP requested when the call was originally dialed.

Speed Call**System Speed Call**

An outgoing trunk call initiated by dialing the Speed Call code will carry the Privacy Indicator if the CPP code followed by the normal dialing sequence is stored in the Speed Call Entry represented by the Speed Call code. The CPP code will be counted against the maximum number of digits (currently 31) allowed per Speed Call list entry.

A user can also store the CPP code in the Speed Call Entry (or Speed Call key). An outgoing CPP call can then be initiated by dialing the Speed Call code (or pressing the Speed Call key), followed by manually dialing the digits.

However, existing Speed Call limitations do not allow a user to dial *67 (or anything else) before accessing a Speed Call list entry.

Stored Number Redial

During Stored Number Redial (SNR) programming, a user can store the CPP code followed by the normal dialing sequence in the SNR data space. Outgoing calls originated by the SNR feature will send the Privacy Indicator to the far end. The CPP code will be counted against the maximum number of digits (currently 31) allowed by the SNR feature.

During an active call on a Meridian 1 proprietary telephone, the Stored Number Redial feature will store the CPP code in the SNR data space if the CPP code was included in the number dialed by the originator. The outgoing redialed calls will send the Privacy Indicator to the far end.

Trunk Anti-Tromboning

An ISDN call that has had its trunks removed due to Trunk Anti-Tromboning operations, will respect the CPP request by the originator.

Trunk Optimization Before Answer

An optimized call due to Trunk Optimization Before Answer will respect the CPP requested by the originator.

Feature packaging

Calling Party Privacy (CPP) is package 301, which requires Flexible Feature Codes (FFC) package 139. Non ISDN trunks must restrict the Outpulse Asterisk and Octothorpe (OPAO) package 104 to provision the CPP feature.

Feature implementation

If the CPP package is equipped in the Meridian 1 Option 11C Compact system, the following steps illustrate how to configure Calling Party Privacy.

- 1 Define the FFC for the CPP feature. FFC package 139 is required for loading LD 57.

LD 57 – Define the FFC for CPP Code.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	FFC	Flexible Feature Code.
CUST	0	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone.
CODE	CPP	FFC type to be altered. CPP entry is only allowed if the CPP package is equipped. <CR> means that no FFC types are prompted.
CPP	(*67), nnnn	Calling Party Privacy code. CPP is prompted only if the CPP package is equipped. Any arbitrary digit sequence up to four digits can be specified. For Meridian 1 proprietary set, an “*” can be entered as the first digit. CPP will be prompted until a <CR> is entered.

LD 16 – Define Privacy Indicators.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
TKTP	COT, DID, FEX, WAT	Trunk Route Type.
...		
DTRK	YES	Digital trunk route.
DGTP	DTI	Digital trunk type.
ISDN	YES	ISDN PRI option.
...		

ACOD	nnnn	Trunk Access Code.
CPP	YES	Calling Party Privacy. YES = This trunk route is enabled for the recognition of the Calling Party Privacy feature. CPP is only prompted if the following conditions are met: the CPP package is equipped, the OPAO package is not equipped, OGT (outgoing) or IAO (incoming and outgoing) trunk, non ISDN option and trunk route type is COT/DID/FEX/WAT. The default value for the CPP prompt is NO.
TCPP	(NO), YES	CPP for an incoming trunk call tandemed to this trunk route. YES = An incoming non-ISDN trunk call tandemed to this trunk route will carry the Privacy Indicator. The default value for the TCPP is NO.
- DTPI	nnnn	Privacy Indicator for a digitone trunk. DTPI is prompted only if CPP is set to "YES" and the trunk route is non-ISDN. If CPP is changed from NO to YES, the default is *67. Any arbitrary digit sequence (0-9) up to four digits can be specified. An asterisk "*" is allowed to be the first digit only if the outgoing call goes to a Public Network.
- DPPI	nnnn	Privacy Indicator for a dial pulse trunk. DPPI is prompted only if CPP is set to "YES" and the trunk route is non-ISDN. If CPP is changed from NO to YES, the default is 1167. Any arbitrary digit sequence (0-9) up to four digits can be specified.

- 2 CPP is only prompted if the CPP package is equipped, the OPAO package (104) is not equipped, the trunk is outgoing (OGT) or incoming and outgoing (IAO), non-ISDN option and the trunk route type is COT, DID, FEX or WAT.
- 3 CLBA Class of Service activates Calling Party per-line blocking. CLBD Class of Service deactivates Calling Party per-line blocking; however, the user can still request Calling Party Privacy by dialing the CPP code.

LD 10/11 – Activate Calling Party per-line blocking.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Type of telephone.
TN	c u	Terminal Number.
...		
CLS	CLBA	Activate Calling Party per-line blocking. Enter CLBD to deactivate Calling Party per-line blocking. CLBD is the default.

Feature operation

Any outgoing call initiated from a set with Calling Party per-line blocking (CLBA) Class of Service will request Calling Party Privacy.

If the originating party has CLBD Class of Service, the Calling Party Privacy feature can only be activated on a per-call basis; if standard dialing procedures are used, no CPP is requested, and the call will proceed as usual. The user must do one of the following to request CPP:

- 1 Precede any dialing of a call with a new Flexible Feature Code defined for the CPP feature. This operates from all telephone types, except BRI sets.
- 2 The Flexible Feature Code is not supported on BRI sets; however, Calling Party Privacy can be requested by setting the softkey “ID PRES” (if it exists) to “Denied” state or the “PRES” prompt to “NO” in LD 27.

Note: If the Calling Party Number IE with the Presentation Indicator set to “Presentation Allowed” is included in the SETUP message generated by the BRI terminal, this BRI terminal will not allow Calling Party Privacy, as the Presentation Indicator generated by the BRI terminal always overwrites the CLIR service option.

Camp-On

Camp-On routes one additional external call to a busy Directory Number (DN). When the attendant extends a call to a busy DN, the external call is camped on to the telephone. If the Class of Service allows a warning tone, the user hears a tone indicating that a call is camped on. If the user frees the line within a specified time, the camped-on call rings the telephone automatically. If not, the call returns to the attendant as a recall.

Camp-On Tone is allowed or denied on a per-customer basis. The time a camped-on call waits is defined in LD 15 from 0 to 510 seconds, in multiples of two seconds. The default is 30 seconds.

Operating parameters

Camp-On applies to attendant-extended calls only. If the attendant hears a busy tone, another call has already been camped on to the busy telephone.

Feature interactions

Attendant Blocking of Directory Number

Camp-On will be denied for a DN that is blocked due to the Attendant Blocking of DN feature.

Attendant Break-In

If the destination DN has a camped-on incoming trunk call, the attendant cannot extend the urgent incoming call as a Camp-On call.

Call Forward All Calls

Call Forward All Calls takes precedence over Camp-On.

Call Forward No Answer

When the Call Forward No Answer timer expires for a ringing camped-on call, the call is given Attendant Recall treatment instead of Call Forward No Answer treatment.

Call Park Network Wide

When an attendant attempts to extend a call to a busy station across the network and the busy station returns a Camp-On allow signal, an attendant has the option of camping on a call or continuing with Network Call Park.

Call Park on Unsupervised Trunks

A Disconnect Timer applies to camped-on calls on all trunks on the route. All answered calls in the camped-on state will be disconnected if left in that state for an extended period.

Call Waiting

Call Waiting Redirection

Camp-On and Call Waiting are mutually exclusive.

Enhanced Override

Forced Camp-On

Priority Override

Station-to-Station Camp-On and Attendant Camp-On are not affected by Forced Camp-On or Priority Override. The new Classes of Service (Camp-On From Another Telephone Allowed [CPFA], Camp-On From Another Telephone Denied [CPFD], Camp-On To Another Telephone Allowed [CPTA], and Camp-On To Another Telephone Denied [CPTD]) affect only Forced Camp-On. The Station Camp-On (SCMP) package (121) is required to return busy tone instead of ringback tone to the party camping on.

Flexible Voice/Data Terminal Number

Camp-On is not supported on data calls to a dynamic voice/data TN.

Camp-On is supported for voice calls to dynamic voice/ data TN. However, no tone is inserted during a Camp-On attempt if the Terminal Number is in a busy data mode.

Hunting

Hunting takes precedence over Camp-On.

Multi-Party Operations

A call cannot be camped-on a DN involved in a consultation connection.

Multi-Party Operations – Three-Party Service

While Camp-On is allowed to the party receiving the patience tone, the Camp-On tone is not applied to the party during the patience tone. The Camp-On tone is applied, however, when the speech path has been reestablished.

Station Camp-On

With Station Camp-On, any internal station can camp an external call on to another internal station that is busy. Prior to the introduction of this feature, attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within a Meridian 1 Customer Defined Network (MCDN). For more information, see the Camp-On, Station feature description.

Warning Tone

Class of Service with warning tone denied allows a call to be camped on, but with no warning tone.

Feature packaging

Camp-On is included in base system software.

Feature implementation

LD 15 – Enable/disable Camp-On tone for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(CTD), CTA	(Disable) enable Camp-On tone for the customer.
TYPE	TIM	Gate opener.
- RTIM	xx yy zz	Set recall timers. yy = Camp-On recall timer, response is 0-(30)-510.
...		
TYPE	FTR	Gate opener.
- STCB	(NO), YES	Station Camp-On Busy allowed.
- NSCP	(NO), YES	Network Station Camp-On to sets on this node allowed.

LD 10 – Allow/deny warning tone Class of Service for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	WTA, (WTD)	Allow (deny) warning tone.

LD 11 – Allow/deny warning tone Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	WTA, (WTD)	Allow (deny) warning tone.

Feature operation

To camp on an external call to a busy destination, the attendant follows these steps:

— Press **Rls**.

The call is camped on to the extension. If you hear a busy tone, a call is already camped on the extension.

If the call is not answered within a specified time, it recalls to the attendant. Both the Source and Destination indicators flash until the recall is answered. The call can be camped on again or released.

To answer a camped-on call, the subscriber follows these steps:

- 1** When you hear a short beep indicating a camped-on call, hang up or press **Rls**.
- 2** When the telephone rings, lift the handset.
You are connected to the camped-on call.

Camp-On, Forced

Forced Camp-On differs from normal Camp-On in that both internal and external calls can be camped on, rather than just external calls as with the Camp-On feature. The Forced Camp-On can be automatic or manual. The manual operation requires the use of the Enhanced Override (EOVR) key or Flexible Feature Code (FFC).

Forced Camp-On can be used as a feature by itself or in conjunction with Priority Override. The combination of the two features is referred to as Enhanced Override (EOVR).

For manual Forced Camp-On, an analog (500/2500 type) telephone user has to dial the EOVR Flexible Feature Code (FFC), while a Meridian 1 proprietary telephone user has to use the EOVR key.

A second operation of the EOVR key or FFC executes Enhanced Override.

Forced Camp-On is similar to station-to-station Camp-On except that Forced Camp-On can be done with either no call on hold or an external or internal call on hold. It can be done automatically or manually; whether it is automatic or manual is determined by the response to the Automatic Forced Camp-On (AFCO) prompt in LD 15.

For manual operation, once a busy telephone has been reached, the first depression of the EOVR key or the first dialing of the EOVR FFC attempts Forced Camp-On. If successful, Forced Camp-On introduces Camp-On tone into the connection. If unsuccessful, overflow (fast busy) tone is returned to the party attempting the Forced Camp-On.

For Forced Camp-On to be attempted, all other methods of call termination must have been tried, the last of which was Camp-On. If station-to-station Camp-On or automatic Forced Camp-On has occurred, or Forced Camp-On has been excluded by the new telephone options, then the first depression of the EOVR key or dialing of the EOVR FFC executes Enhanced Override. If, however, Forced Camp-On is denied due to existing Camp-On restrictions, Enhanced Override is also denied.

Operating parameters

The Flexible Feature Codes (FFC) package (139) must be equipped for Forced Camp-On and Priority Override to be available from analog (500/2500 type) telephones.

For analog (500/2500 type) telephone activation, the Multi-Party Operations (MPO) package (141) must be equipped, with “YES” as the response to the RALL prompt in LD 15 to ensure register recalls are required before dialing control digits. The EOVR FFC defined must not start with the same digit as one of the control digits. The control digits are defined in LD 15 and are printed as part of the Customer Data Block (LD 21).

Telephones or trunks involved in any of the following cannot be camped on to:

- Non established call
- Conference call
- Attendant call
- Attendant call via Centralized Attendant Service (CAS), Primary Rate Interface (PRI), or Integrated Services Digital Network (ISDN) trunk
- Make Set Busy
- Do Not Disturb
- Automatic Call Distribution (ACD) call
- Operator Call Back
- Hold
- Data call

- Release Link call, and
- Parked call.

Call Forward and Hunting take precedence over Call Waiting. If Call Waiting is allowed, Camp-On is not attempted. If Call Waiting is not allowed, station-to-station Camp-On is automatically attempted. If this succeeds, Enhanced Override can still follow. If Camp-On fails because there is no external call, Forced Camp-On and Enhanced Override may still work. However, if Camp-On fails due to other limitations, Forced Camp-On and Enhanced Override will also not work.

Even though Camp-On will still function when Warning Tone Denied (WTD) Class of Service is defined, Forced Camp-On requires Warning Tone Allowed (WTA) Class of Service.

Camp-On requires an external call on hold. Forced Camp-On can be done without a call on hold, or with both internal and external calls on hold.

New Camp-On Classes of Service (Camp-On From another telephone Allowed [CPFA], Camp-On From another telephone Denied [CPFD], Camp-On To another telephone Allowed [CPTA], and Camp-On To another telephone Denied [CPTD]) apply to Forced Camp-On and automatic Forced Camp-On (AFCO) only. They do not apply to Station or attendant Camp-On.

If a telephone is denied Forced Camp-On by Class of Service, Enhanced Override may still be attempted.

Feature interactions

Attendant Calls

Telephones involved in attendant calls cannot be camped on to. Overflow (fast busy) tone is returned to telephones on which Forced Camp-On is attempted.

Automatic Call Distribution (ACD)

Telephones involved in ACD calls cannot be camped on to. Overflow (fast busy) tone is returned to telephones attempting Forced Camp-On.

Camp-On

Station-to-Station Camp-On and attendant Camp-On are not affected by Forced Camp-On. The new Classes of Service (Camp-On From another telephone Allowed [CPFA], Camp-On From another telephone Denied [CPFD], Camp-On To another telephone Allowed [CPTA], and Camp-On To another telephone Denied [CPTD]) affect only Forced Camp-On. The Station Camp-On (SCMP) package (121) is required to return busy tone instead of ringback tone to the party camping on.

Conference calls

Telephones involved in Conference calls cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-On.

Data calls

Data calls have Warning Tone Denied (WTD) Class of Service and therefore cannot be camped on to. Overflow tone is returned to telephones attempting Forced Camp-On.

Do Not Disturb (DND)

Telephones with DND enabled cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Hold

Neither held calls nor telephones with calls on hold can be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Make Set Busy (MSB)

Telephones with MSB active cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Operator Call Back

Telephones involved in an Operator Call Back call or Toll Operator Break-In cannot be camped on to with Forced Camp-On. Overflow tone is returned to telephones attempting Forced Camp-On.

Feature packaging

Forced Camp-On requires the following packages to function as described in this document:

- Station Camp-On (SCMP) package 121
- Flexible Feature Codes (FFC) package 139, and
- Priority Override/Forced Camp-On (POVR) package 186.

Feature implementation

LD 15 – Configure the customer for Automatic Forced Camp-On and Station Camp-On tone.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB MPO	Customer Data Block. Gate opener.
...		
- AFCCO	(NO), YES	Automatic Forced Camp-On. Enter YES if Forced Camp-On is to be applied automatically. Enter NO if Forced Camp-On is to be applied manually.
...		
TYPE	FTR	Gate opener.
- STCB	(NO), YES	Station Camp-On Busy tone. Enter NO if Busy Tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy Tone is to be given to the transferring (controlling) party when the desired station is busy.

LD 57 – Configure Enhanced Override FFC's.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	FFC	Flexible Feature Codes.
...		
CODE	EOVR	Enhanced Override (programmable only when the Priority Override package 186 is equipped).
EOVR	y...y	y...y is a one- to seven-character input that the user must dial to use the FFC. Valid inputs are digits 0 through 9, asterisk (*) and octothorpe (#).

LD 10 – Configure Analog (500/2500 type) telephones for Forced Camp-On.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	500	Telephone type.
CLS	(CPFA), CPFD	Forced Camp-On from another telephone to this telephone (Allowed) Denied.
	(CPTA), CPTD	Forced Camp-On to another telephone from this telephone (Allowed) Denied.
	WTA	Warning Tone Allowed.

LD 11 – Configure Meridian 1 proprietary telephones for Forced Camp-On.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(CPFA), CPFD (CPTA), CPTD WTA	Forced Camp-On from another telephone to this telephone (Allowed) Denied. Forced Camp-On to another telephone from this telephone (Allowed) Denied. Warning Tone Allowed.
...		
KEY	xx EOVR	Add an Enhanced Override key, where; xx = the key number (allowed to be programmed only if Priority Override package 186 is equipped).

LD 14 – Configure trunks for Forced Camp-On.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
...		
CLS	WTA	Warning Tone Allowed.

Feature operation

Forced Camp-On can be used when making either a simple or consultation call (i.e., having a call on hold while calling another party). The following feature operation descriptions use telephone A (an analog [500/2500 type] telephone) or telephone E (a Meridian 1 proprietary telephone) to call telephone B, which is connected to party C.

The telephones are configured as follows:

- 1** Telephone A is an analog (500/2500 type) telephone with Warning Tone Allowed (WTA) Class of Service.
- 2** Telephone B has Warning Tone Allowed (WTA) Class of Service.
- 3** Party C has Warning Tone Allowed (WTA) Class of Service and can be any telephone type or a Direct Inward Dial (DID), TIE, or Central Office (Public Exchange) (COT) trunk.
- 4** Telephone E is a Meridian 1 proprietary telephone with Warning Tone Allowed (WTA) Class of Service and an Enhanced Override (EOVR) key equipped.

For the following examples:

- 1** Telephones A and E both have Camp-On From another telephone Allowed (CPFA) Class of Service.
- 2** Both telephone B and telephone C are involved in a simple call, not a conference call.
- 3** Telephone B has Camp-On To another telephone Allowed (CPTA) Class of Service.
- 4** Call Forward, Hunting, and Call Waiting are not in use.

In the following feature operation descriptions, the term “recall” refers to performing a register recall, which can be performed in a number of different ways. Some typical examples are:

- Flash the switchhook. (This is the equivalent of hanging up the handset and picking it back up. This on hook, off hook is performed in a time period that is less than what the system would consider to be a valid disconnect.)
- Press the flash or LINK button if equipped.

The Camp-On tone is always provided for Forced Camp-On since Warning Tone Allowed (WTA) Class of Service is a prerequisite. This tone can be a buzz for Meridian 1 proprietary telephones or a single burst of tone for analog (500/2500 type) telephones if the customer (LD 15) option Periodic Camp-On Tone Denied (CTD) is selected. If the customer (LD 15) option Periodic Camp-On Tone Allowed (CTA) is selected, the Camp-On Tone as defined in the Flexible Tones and Cadences (FTC) (LD 56) in response to the CAMP prompt will be used.

While camping on, the party attempting the Camp-On, either telephone A or E, receives ringback if the Station Camp-On (SCMP) package (121) is not equipped, or either ringback or busy tone, as defined by the response to the Station Camp-On Busy tone (STCB) prompt in LD 15, if the SCMP package is equipped.

Forced Camp-On with an Analog (500/2500 type) telephone

With automatic Forced Camp-On turned off; response to AFCCO in LD 15 was "NO":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	A dials B.	A receives busy tone.
3	A performs a recall.	A receives special dial tone (SDT).
4	A dials EOVR FFC to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone A receives overflow (fast busy) tone. Otherwise B receives Camp-On tone and A receives ringback or busy tone depending on the options equipped. A is manually Forced Camp-On to B.
5	B disconnects from the call.	Telephone A rings telephone B.

With automatic Forced Camp-On turned on; response to AFCCO in LD 15 was "YES":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	A dials B.	A attempts Forced Camp-On to B.
3	If Forced Camp-On was successful.	A receives ringback or busy tone depending on the options equipped. A is automatically Forced Camp-On to B.
4	B disconnects.	A rings B.

Forced Camp-On with a Meridian 1 proprietary telephone

With automatic Forced Camp-On turned off; response to AFCC in LD 15 was "NO":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	E dials B.	E receives busy tone.
3	E presses EOVR key to attempt Forced Camp-On.	If telephone B or C has disconnected, telephone E receives overflow (fast busy) tone. Otherwise B receives Camp-On tone and E receives ringback or busy tone depending on the options equipped. E is manually Forced Camp-On to B.
4	B disconnects from the call.	Telephone E rings telephone B.

With automatic Forced Camp-On turned on; response to AFCC in LD 15 was "YES":

	ACTION	RESPONSE
1	B and C are connected in a simple call.	
2	E dials B.	E attempts Forced Camp-On to B.
3	If Forced Camp-On was successful.	E receives ringback or busy tone depending on the options equipped. E is automatically Forced Camp-On to B.
4	B disconnects.	E rings B.

Camp-On, Station

With this feature, any internal station can camp an external call on to another internal station that is busy. Prior to the introduction of this feature attendants were the only parties that could camp calls on to busy internal stations. The term internal station includes stations on other nodes within a Meridian 1 Customer Defined Network (MCDN).

When a transferring party reaches a busy internal party, the transferring telephone will receive Ringback tone (providing certain conditions are met). When the transferring party completes the transfer, the external (calling) party will Camp-On to the desired party and the external party (an external party is any CO, DID, FEX, or WATS call) will receive ringback tone or music.

This feature applies to both standalone and network environments.

Within a network environment, the transferring and camped on to stations may be on the same or different nodes, as long as all nodes are configured with Network Station Camp-On.

Operating parameters

The restrictions that currently apply to the operation of the Camp-On feature from an Attendant Console also apply to Station Camp-On.

These restrictions are:

- Camp-On is not permitted if the desired station is in a state other than established (i.e., ringing, dialing).
- Only one call at a time can Camp-On to a busy station.
- Calls cannot Camp-On to a station with the Call Waiting feature configured.

- The station camped on to will be given Warning tone only if the customer has Camp-On Tone Allowed (CTA) in the Customer Data Block (LD 15) and the station has Warning Tone Allowed (WTA) Class of Service assigned. If the station has Warning Tone Denied (WTD) Class of Service assigned, the Camp-On will take effect without giving any Camp-On tone to the camped on to (desired) party.
- The transferring station will receive Busy tone only if the response to the STCB prompt in the Customer Data Block (LD 15) of the camped on to (desired) telephone is YES. Otherwise, the transferring station will receive Ringback tone.

Camp-On indication

When a call is extended from an attendant to a busy station there is a specific combination of tones and indicator states to identify the Camp-On state.

When an inquiry call is made from a station, there is only one way for the user to distinguish between a busy telephone and an idle ringing telephone. That way is to ensure that the response to the STCB prompt in the Customer Data Block (LD 15) of the camped on to (desired) telephone is YES. Otherwise, Ringback tone is provided in both cases.

Feature interactions

Call Waiting

Call Forward All Calls

Hunting

Call Forward Busy

Call Waiting, Call Forward All Calls, Hunting, and Call Forward Busy (for DID calls only) all take precedence over Camp-On.

Dial Impulse Set

A Dial Impulse (DIP Class of Service) station must have TSA Class of Service to perform a Station Camp-On.

Network Attendant Service

For network-wide Station Camp-On, NAS must be equipped at each node of the network.

Feature packaging

For standalone environments the Station Camp-On (SCMP) package 121 is required.

For network environments the Station Camp-On (SCMP) package 121 and the Network Attendant Service (NAS) package 159 are required.

For Music (MUS) package 44 is required.

Feature implementation

LD 15 – Configure Station Camp-On for both standalone and network environments.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
...		
- STCB	(NO), YES	Station Camp-On Busy tone. Enter NO if Busy tone is not to be given to the transferring (controlling) party when the desired station is busy. Enter YES if Busy tone is to be given to the transferring (controlling) party when the desired station is busy.
- NSCP	(NO), YES	Network Station Camp-On. Enter NO if telephones on this node are not allowed to have calls camped on by telephones in other nodes. Enter YES if telephones on this node are allowed to have calls camped on by telephones in other nodes.

Feature operation

Standalone case

Any station, not necessarily the Night DN, attempting to transfer an external call may, during the associated inquiry call, camp the trunk on to a busy station.

The Camp-On will take effect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear Ringback tone or Busy tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any telephone, not just the Night DN. By default (STCB is set to NO), the transferring party will hear Ringback tone.

The desired station will hear Camp-On tone if it has WTA Class of Service assigned. Otherwise, if it has WTD Class of Service, the Camp-On will take effect without the desired party being informed a call is camped on.

When the transfer is completed, the external party is camped on to the desired station and receives either Ringback tone or an announcement.

Network case

Any station, not necessarily the Night DN, attempting to transfer an external call across an MCDN network may, during the associated inquiry call, Camp-On the trunk to a busy station.

The location of the transferring party has no effect on the Station Camp-On capability.

The Camp-On will take effect from the moment the transferring station has completed the transfer to the desired DN.

The transferring station will hear Ringback tone or Busy tone depending on the option entered in response to the STCB prompt in the Customer Data Block (LD 15). This prompt applies to any telephone, not just the Night DN. By default (STCB is set to NO), the transferring party will hear Ringback tone. The tone given, either ringback tone or Busy tone, is determined by the node in which the desired (camped on to) party resides.

The desired station will hear Camp-On tone if it has WTA Class of Service assigned. If it has WTD Class of Service, the Camp-On will take effect without the desired party being informed a call is camped on.

When the transfer is completed, the external party is camped on to the desired station and receives either Ringback tone or an announcement.

Recall timing on Camp-On calls

When any station extends an external call, recall timing will be initiated if the call is camped on to a busy station.

The recall timing will start from the moment that the extending station “releases” the call. The value of the recall timer is set by the prompt RTIM in the Customer Data Block (LD 15).

At the recall, the camped on call will be routed to the attendant. If the attendant is in Night Service, Night treatment is given; if NAS routing is active, the call will be routed according to the NAS configuration.

Standalone case

When the recall to the attendant occurs, the Camp-On is canceled. If the attendant is busy during the recall, the recall will be queued.

Network case

When the recall occurs and the attendant has answered the recall, the call will still be camped on to the desired party. If during the recall the attendant is busy, the recall will be queued.

Centrex Switchhook Flash

Centrex Switchhook Flash (THF) permits the user to signal the Central Office (CO)/Public Exchange during an established CO call, requesting activation of a Central Office based service. Such services can include Call Transfer, Three-way Calling, Malicious Call Trace, Conference, or Autodial Tandem Transfer. For more information on these services, please refer to the feature descriptions contained within this document.

The feature is useful where Centrex is the backbone of the service network. Centrex Switchhook Flash (THF) is supported by the following trunk types:

- Automatic Identification of Outward Dialing (AIOD)
- Common Control Switching Arrangement, Automatic Number Identification (CCSA ANI)
- Centralized Automatic Message Accounting (CAMA)
- Central Office (CO)
- Common Control Switching Arrangement (CCSA)
- Direct Inward Dial (DID)
- Foreign Exchange (FX)
- Wide Area Telephone Service (WATS)
- CO trunks located at a remote node connected via ISDN Meridian 1 Customer Defined Network (MCDN) TIE trunks, and
- Analog, Digital Trunk Interface (DTI), and DT12 CO trunks.

Whenever Centrex Switchhook Flash (THF) is invoked, Meridian 1 Option 11C Compact checks for the following:

- With analog (500/2500 type) telephones, that the Class of Service supports THF. With Meridian 1 proprietary telephones, the feature cannot be activated if a corresponding key is not equipped.
- That the telephone is on an active two-way trunk call.
- That THF is enabled in the trunk's Class of Service.

If any of the above checks fails, the user hears an overflow tone. After the tone times out, the original connection resumes.

The following improvements have been made to this feature:

- The minimum value of the range for the Flash-length (FLH) timer for a Centrex Switchhook Flash, defined in LD 16 in response to the TIMR prompt, is modified to provide a range of 60-1536 milliseconds.
- Attendant Consoles can now activate the feature.
- The THF feature can be activated on DTI2 Central Office trunks and Intelligent Peripheral Equipment (IPE) Central Office trunks.
- The Centrex Switchhook timing on the Extended Flexible Universal Trunk (EXUT) is now performed using firmware offering a significant improvement in trunk timing accuracy.

Operating parameters

This feature is not supported on Basic Rate Interface (BRI) telephones.

THF is not supported on Primary Rate Interface (PRI) or BRI Central Office trunks.

On Meridian 1 proprietary telephones, once the THF key has been pressed, all other function keys are blocked. While waiting for the Centrex connection, only the RLS key or on-hook connection is operative. Pressing the RLS key or hanging up terminates the original connection as well as the THF message.

For analog (500/2500 type) telephones, another switchhook flash is not allowed once THF has been invoked. A second switchhook flash is treated as an on hook disconnection.

Only voice calls are supported on THF.

In Italy the DTI2 register recall signal is currently only supported for Type Approval and is not commercially available.

The 1.5 or 2 Mbit Digital Trunks Interface pack is required.

Because the software cannot recognize which type of Intelligent Peripheral Equipment (IPE) CO line card (e.g., XCOT, or XFCOT) is in use, CO trunks belonging to different card types should not coexist on the same Route Data Block (RDB).

All Existing Peripheral Equipment (EPE) CO line cards can be used for analog trunks.

Feature interaction

Autodial Tandem Transfer

Because Autodial Tandem Transfer uses THF, it is affected by any modification to the THF enhancement feature.

Conference

THF allows conference calls through the CO. It can be invoked only if there is an established call connected to an outside trunk. If the telephone is engaged in internal conference calls, THF cannot be used.

Enhanced Malicious Call Trace

Because the THF enhancement and Enhanced Malicious Call Trace (EMCT) both depend on the configuration of the TIMR/FLH prompt on LD 16 and the RRC prompt in LD 73, a change to either of these prompts affects both features.

Secrecy

If secrecy is not allowed in LD 15 (OPT = SYD), the attendant must use the EXCL DEST or EXCL SRC keys to select the Central Office trunk on which the THF has to be sent. The THF is not activated when both SRC and DEST are included.

Feature packaging

Centrex Switchhook Flash (THF) package 157 has no package dependencies. The End-to-End Signaling (EES) package 10 is recommended for users with Meridian 1 proprietary, and Attendant Consoles.

If both THF and the 2 Mbit Digital Trunk Interface (DTI2) package 129 are present, this feature can also be applied to digital Central Office trunk connections.

Feature implementation

LD 10 – Enable/disable Centrex Switchhook Flash for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	THFA, (THFD)	Allow (Deny) Centrex Switchhook Flash.

LD 11 – Enable/disable Centrex Switchhook Flash for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx THF	Add a Centrex Switchhook Flash key; xx is the key number.

LD 12 – Enable/disable Centrex Switchhook Flash for ATTN consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
...		
KEY	xx THF	Add a Centrex Switchhook Flash key; xx is the key number.

LD 14 – Enable/disable Centrex Switchhook Flash for each trunk.

Prompt	Response	Description
TYPE	AID	Automatic Identification of Outward Dialing (AIOD) trunk data block.
	CAA	Common Control Switching Arrangement Automatic Number Identification (CCSA ANI) trunk data block.
	CAM	Centralized Automatic Message Accounting (CAMA) trunk data block.
	COT	Central Office (CO) trunk data block.
	CSA	Common Control Switching Arrangement access line data block.
	DID	Direct Inward Dialing (DID) trunk data block.
	FEX	Foreign Exchange trunk data block.
	WAT	Wide Area Telephone Service trunk data block.
CLS	THFA, (THFD)	Allow (Deny) Centrex Switchhook Flash on this trunk.

LD 16 – Enable/disable Centrex Switchhook Flash for each trunk route.

Prompt	Response	Description
CNTL	YES	Change controls or timers
- TIMR	FLH <space> 60-(510)-1536	Flash timer in msec. The range of the Centrex switchhook flash timer is 60-(510)-1536. The FLH value is rounded down to the nearest 10 msec. tick. If the value entered is 128 or 129, then it is set to 130 msec. <i>Software controlled flash</i> 60-127 msec. Digit 1 will be sent. 128-1536 msec. software controlled switchhook flash. <i>Firmware controlled flash</i> The user can enter any value from 60 to 1536 msec. 90 msec. is the hardcoded firmware flash for an XFCOT card; the technician should enter 90 msec. Note: the FWTM prompt must be set to YES for the trunk associated with this route in LD 14, if firmware timing is to be used.

LD 73 – All types of sets can now activate the THF on digital trunks for incoming and outgoing calls. Therefore, the P RRC(s) signal must be configured in the SICA table. This signal was already existing for incoming calls, but is now available for both incoming and outgoing calls.

Prompt	Response	Description
REQ	NEW, CHG	New, or change.
TYPE	DTI2	2 Mbits DTI
FEAT	ABCD	Digital signaling category.
SICA	XX	Signaling category table.
...		
INCOMING/ OUTGOING CALLS		
...		
P RRC(S)	ABCD	Register Recall signal.
TIME	10-(100)-630	Duration of RRC Pulse in msec.

Feature operation

Analog (500/2500 type) Sets

To use Centrex Switchhook Flash (THF) from an analog (500/2500 type) telephone, follow these steps:

- 1 Flash the switchhook to receive a special dial tone.
- 2 Enter the Special Prefix (SPRE) code, then the THF feature access code (96). Alternatively the appropriate Flexible Feature Code (FFC) should be used.

To reestablish a connection before the overflow tone ends, flash the switchhook.

Meridian 1 Proprietary Sets

To use Centrex Switchhook Flash (THF) from a Meridian 1 proprietary telephone, press the key configured for THF, or the appropriate FFC code.

To reestablish a connection before the overflow tone ends, press the DN key or the key establishing the original call.

Attendant Consoles

Attendant Consoles must use the THF key. Dial access is not supported on these consoles.

To reestablish a connection before the overflow tone ends, press the DN key or the key establishing the original call.

Charge Account and Calling Party Number

Used in conjunction with Call Detail Recording (CDR), Charge Account bills calls directly to specific accounts or charge numbers instead of DNs.

Charge Account supports fixed-length numbers of 0 to 23 digits (default is 0), specified on a per-customer basis. The charge account number is validated by the system for length only. Verification of the actual digits entered is part of CDR downstream processing.

On Meridian 1 proprietary telephones, this feature can be activated by a separate Charge key/lamp pair, or dial accessed. On Attendant Consoles, it is activated by a separate key/lamp pair. On single-line telephones, it is dial-accessed.

When a Charge Account number is used, the entire call is billed to that number. The number can be entered either before or during a call, or when Consultation Hold, Call Transfer, or Conference is activated.

The Charge Account feature is not supported for internal calls. A Charge Account number entered through the Charge key/lamp pair is blocked for established internal calls.

Charge Account can be used to charge an entire conference call or portions of the call. Portions of the call are assigned to different accounts by entering the account number when adding trunks to a conference, before the conference is completed.

- When using analog (500/2500 type) telephones, enter the account information immediately after the switchhook flash, before the new trunk is dialed.
- When using Meridian 1 proprietary telephones, enter the number after pressing the Conference key the first time, and before dialing.

The charge record shows the identity of the user who made the entry and the trunk that was added to the call. If the new call is not added to the conference, the record shows a simple two-party call.

An entire call is charged to the same account by entering the charge number while active on the conference. When using Meridian 1 proprietary telephones, press the Charge key and enter the number in the usual manner. When using analog (500/2500 type) telephones, enter the number after a switchhook flash.

The call is reestablished without dialing additional trunks; a record is produced for each trunk involved in the conference. In all these records, the telephone user entering the number is considered the originating party. When an entire call is charged to only one account number, it must be entered while all trunks are connected to the conference.

Calling Party Number (CPN) is an extension of Charge Account that allows entry of the calling party's number on collect calls. Meridian 1 proprietary telephones are assigned a separate Calling Party Number (CPN) key/lamp pair to activate this feature. When the calling party's number is entered, a Calling Party Number (CPN) record is produced. This record may be compared to a telephone company billing for collect calls. Calling party numbers can be up to 23 digits, and may include an asterisk (*) and octothorpe (#). A CPN record is generated on the Call Detail Recording (CDR) device similar to a normal Charge record.

Operating parameters

A valid charge account number is recognized when the number of dialed digits matches the account length, or when the octothorpe (#) indicates end of dialing. After a valid charge account number has been entered, the system returns a dial tone.

If too few digits are dialed, no response is given until the interdigit timeout occurs. Overflow tone is returned for 15 seconds after timeout; then the user is locked out.

If Call Transfer or Conference is used to consult with a third party and returns to the original call without completing the transfer or conference, the charge account number is applied to the Consultation call only.

Attendant use of Charge or CPN is restricted to situations in which there is only one account party involved in the call (source side). When the calling party number is used, the attendant must transfer the call, or the Call Detail Recording (CDR) record does not reflect it.

Feature interactions

Barge-In Busy Verify

A charge account number cannot be entered when Barge-In or Busy Verify is active. Barge-In cannot be used to connect to a trunk after an account number has been entered.

Call Transfer

A Call Transfer call produces two records: a CDR start record and a CDR end record.

Conference

Conference calls produce multiple CDR records. Whenever a new trunk is added to a conference, the connection between the connected telephone and the trunk is recorded, and a connection to the conference loop is established. This causes CDR to generate a start record with the telephone and trunk identified as the involved parties. As trunks are removed from a conference, CDR end records are produced. These records may identify different telephones or conferences as the local parties.

Override

When Charge Account is used during active Override, some digits may be lost. When entered with Override in conference, a Charge Account number is accepted and no digits are lost.

Ring Again

When Ring Again is activated, no charge record is generated, but the information is stored for future use. If Ring Again is canceled before a trunk is seized, the charge number is deleted and no record is produced. If a trunk is seized later by Ring Again, the charge record is generated in the usual manner. The use of Ring Again with Charge Account ties up system resources because an auxiliary call register must be maintained in the Ring Again queue.

**Speed Call
Autodial**

Charge account numbers, including the Charge Account access Special Prefix (SPRE) code, can be stored as Speed Call or Autodial numbers. All current limitations of these features apply, such as a maximum of 23 digits per entry, including the access code. An Autodial number or dialed digits can follow, but not precede, a Speed Call number. The digits generated by an Autodial key during feature operation are accepted as Charge Account digits.

Telephone keys

A Charge Account entry is aborted with any of the following keys:

- DN
- Page
- Voice Call
- In-Calls
- Call Waiting
- Call Pickup
- Release
- Not Ready
- a loop key
- Release Destination, and
- Release Source.

Feature packaging

CDR with Charge Account (CHG) package 23 requires:

- Call Detail Recording (CDR) package 4, and
- Charge Account/Authorization Code Base (CAB) package 24.

Feature implementation

LD 15 – Add/change Charge Account for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB CDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CHLN	(0)-23	Maximum number of digits that can be entered as a charge account number.

LD 10 – Allow/deny access to Charge Account for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA	(Deny) allow call transfer.

LD 11 – Add/change a Calling Party Number or Charge key for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx CPN xx CHG	Add a Calling Party Number key (must be key 24 for the M2317 and key 32 for the M3000). Add a Charge key (must be key 25 for the M2317 and M3000).

LD 12 – Add/change a Calling Party Number or Charge key for Attendant Consoles.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Attendant Console type.
TN	c u	Terminal Number.
CUST	0	Customer number.
KEY	0-9 CPN 0-9 CHG	Add a Calling Party Number key. Add a Charge key.

Feature operation

This section explains Charge Account feature and Calling Party Number feature operation for Meridian 1 proprietary telephones, analog (500/2500 type) telephones, and Attendant Consoles.

Meridian 1 proprietary telephones

To charge a call to an account before dialing, follow these steps:

- 1 Select a free extension.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1 Press **Charge**.
- 2 Dial the Charge Account number.
- 3 Press the extension key to return to your call.

To use a SPRE code to charge a call in progress, follow these steps:

- 1 Press **Transfer** or **Conference**.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Press the extension key to return to your call.

To charge a call to an account when you transfer a call, follow these steps:

- 1 Press **Transfer**.
The call is on hold.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Dial the number where the call is to be transferred.
- 5 Press **Transfer**.

To charge a call to an account when adding a party to a conference call, follow these steps:

- 1 Press **Conference**.
The call is on hold.
- 2 Press **Charge** or dial SPRE + 5.

- 3 Dial the Charge Account number.
- 4 Call the party that you want to add to the conference.
- 5 Press **Conference**.

To record a caller's number for accounting purposes, follow these steps:

- 1 Press **Calling No.**
The other party is on hold.
- 2 Dial a Charge Account number or the caller's number.
- 3 Press **Calling No.** again to return to the call.

Analog (500/2500 type) telephones

To charge a call to an account before dialing, follow these steps:

- 1 Select a free extension.
- 2 Dial SPRE + 5.
- 3 Dial the charge account number.
- 4 When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1 Flash the switchhook or link.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Flash the switchhook or link to return to the call in progress.

To charge a call to an account when adding a party to a conference call, follow these steps:

- 1 Flash the switchhook or link.
- 2 Dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 Call the party that you want to add to the conference.
- 5 Flash the switchhook or link.

Attendant Consoles

To charge a call to an account before dialing, follow these steps:

- 1** Press the **loop** key.
- 2** Press **Charge**.
- 3** Dial the Charge Account number.
- 4** When you have a dial tone, dial the telephone number.

To charge during a call in progress, follow these steps:

- 1** While the source call is active on a loop key, press **Charge**.
- 2** Dial the Charge Account number.
The voice connection remains active.
- 3** Flash the switchhook or link to return to the call in progress.

To record a caller's number for accounting purposes, follow these steps:

- 1** While the source call is active on a loop key, press **Calling No.**
The other party is on hold.
- 2** Dial a Charge Account number or the caller's number.
- 3** Press **Calling No.** again to return to the call.

Charge Account, Forced

Forced Charge Account (FCA) temporarily overrides Class of Service restrictions for toll-denied users. Use FCA long distance calls to an account number when calling from a telephone that is restricted from making long distance calls. The unrestricted Class of Service provided by FCA applies for the duration of the call.

When the account number is entered, a charge record is produced on a Call Detail Recording (CDR) device.

FCA supports variable-length numbers of 1 to 23 digits. The minimum value for the account number is specified at the customer level.

A valid account number equals or exceeds the minimum value defined, and is validated by the system for length only. Verification of the actual digits entered is part of Call Detail Recording (CDR) downstream processing.

FCA can be allowed or denied at both customer and user levels. Users include any station or TIE and Common Control Switching Arrangement (CCSA) type trunks assigned a Toll-Denied (TLD), Conditionally Toll-Denied (CTD), or Conditionally Unrestricted (CUN) Class of Service.

Meridian 1 proprietary telephones activate this feature by using a separate Charge key/lamp pair. Any user can access this feature by dialing SPRE + 5.

A distinction is made between normal CDR Charge Account processing and FCA. If all the following conditions are met, the account number is treated as an FCA code:

- The telephone from which the number is entered must have a TLD, CTD, or CUN Class of Service.
- The station or trunk from which the number is entered must be in a state to originate a call (press a Directory Number [DN] key or flash the switchhook).
- FCA must be enabled at the customer level.
- FCA must be allowed for the station or trunk from which the number is entered.
- A valid account number must be entered at the beginning of the call.

The unrestricted Class of Service provided by FCA as described above applies for the duration of the call only. The account number must be reentered for each successive toll call placed by the station or trunk.

Operating parameters

An octothorpe (#) dialed after the account number indicates that the subsequent digits are part of the dialed number.

CDR charge account numbers are fixed-length codes for which a maximum value is specified by the customer. This is also the maximum allowed for the FCA account number.

Because 500 telephones cannot dial an octothorpe (#), they are restricted to fixed-length account numbers.

FCA does not apply to attendant calls.

Feature interactions

Authorization Code

If the Authorization Code is used to change the Class of Service of the user, the new Class of Service must be TLD, CTD, or CUN. If an Authorization Code entered after FCA has altered the Class of Service to unrestricted (UNR), the change made by the Authorization Code still comes into effect.

If the originator's Network Class of Service (NCOS) has been changed by an Authorization Code prior to an applicable FCA entry, the new NCOS is replaced by the FCA NCOS, provided the new Facility Restriction Level (FRL) is not lower than the existing FRL. Similarly, if the originator's NCOS has been changed by an FCA entry, the NCOS will be changed again by a valid Authorization Code entry.

Basic/Network Alternate Route Selection (BARS/NARS)

If BARS or NARS is equipped, a Network Class of Service (NCOS) associated with FCA must be defined in the Customer Data Block.

Call Detail Recording (CDR)

Normal CDR charge account numbers can still be entered before or after an FCA code. If the criteria for an FCA call are not met, CDR charge account numbers function in the normal manner.

Conference and Transfer

If an FCA code is entered at the beginning of a call, the new unrestricted Class of Service remains in effect for any transfer or conference made during the call. If all FCA criteria are met, an account number entered after activating the Conference key, Call Transfer key, or a switchhook flash is interpreted as an FCA code.

Scheduled Access Restrictions (SAR)

FCA can be used to override SAR on a per-call basis, provided the current Class of Service (COS) of the telephone or trunk is CUN, TLD, or CTD. The current COS is the COS in force according to the SAR schedule. If an Authorization Code that sets the COS to CUN, TLD, or CTD is dialed before the FCA, the call is allowed. FCA sets the COS to UNR and the Network COS (NCOS) to the NCOS defined in LD 15, provided that FCA is enabled on both a customer and telephone/trunk basis.

Speed Call and Autodial

FCA numbers (including the Special Prefix [SPRE] code and the Charge Account access code) can be entered in Speed Call lists or stored as Autodial numbers. The digits can also be stored, provided that the account number, regardless of its length, is followed directly by an octothorpe (#).

Trunk Group Access Restrictions (TGAR)

TGARs apply to the telephone or trunk entering the account number.

Feature packaging

Forced Charge Account (FCA) package 52 requires:

- Charge Account/Authorization Code Base (CAB) package 24, and
- Charge Account (CHG) package 23.

Feature implementation

LD 15 – Enable/disable Forced Charge Account for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB CDR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CHLN	(0)-23	Maximum number of digits that can be in an FCA code (default is 0).
- FCAF	(NO), YES	(Disable) enable FCA for the customer.
- CHMN	xx	Minimum number of digits that can be in an FCA code (must be less than CHLN).
- FCNC	xx	NCOS to be assigned to FCA codes.

LD 10 – Enable/disable Forced Charge Account for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
FCAR	(NO) YES	FCA can be used by this telephone. FCA is restricted from use by this telephone.

LD 11 – Enable/disable Forced Charge Account for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
FCAR	(NO) YES	FCA can be used by this telephone. FCA is restricted from use by this telephone.

LD 14 – Enable/disable Forced Charge Account for each incoming TIE or CCSA trunk.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	TIE, CAA	Trunk type (must be TIE or CCSA).
TN	c u	Terminal Number
FCAR	(NO) YES	FCA can be used by this trunk. FCA is restricted from use by this trunk.

Feature operation

To use FCA, follow these steps:

- 1 Select a free extension.
- 2 Press **Charge** or dial SPRE + 5.
- 3 Dial the Charge Account number.
- 4 When you have a dial tone, dial the long distance number.

For operating procedures from particular telephones or consoles, see the Charge Account and Calling Party Number module in this document.

Conference

Conference adds additional parties to an established call. The maximum is three or six, depending on the Conference feature assigned to the conference call originator. Not all conference parties have to be local to the Meridian 1 Option 11C Compact, although one party must be an internal Directory Number (DN) to uphold the conference connection. The attendant can also establish six-party conferences.

Meridian 1 proprietary telephones require a separate Conference 3 or Conference 6 key/lamp pair. M2317 and M3000 Touchphones establish conference calls by means of a softkey. Analog (500/2500 type) telephones use the switchhook to establish a three-party conference.

Six-party conference for analog (500/2500 type) Telephones

The six-party Conference (C6A) Class of Service enables analog (500/2500 type) telephones to establish a six-party conference, which operates the same as a three-party conference, with the exception of Conference Control operation.

Conference Control disconnects an unwanted third party (trunk only) from a three-party conference. Analog (500/2500 type) telephone users implement this feature by means of the switchhook flash. Telephones with the six-party conference capability implement Conference Control by dialing SPRE + 87.

It is recommended that all analog (500/2500 type) telephones have either the three-party conference (C6D) Class of Service or the six-party Conference (C6A) Class of Service to avoid confusion when using Conference Control.

Operating parameters

Due to the possibility of getting annoying noise (e.g., squealing) when two or more trunks are involved in a conference, it is strongly recommended that no more than two trunks be involved in the process.

At least one party in the conference must be a telephone on the local Meridian 1 Option 11C Compact for the duration of the conference call.

Attendant Administration does not support the implementation of six-party conference for analog (500/2500 type) telephones. An error message is displayed if an attempt is made to remove Transfer Allowed (XFA) Class of Service for analog (500/2500 type) telephones with a C6A Class of Service.

A Transfer allowed (XFA) Class of Service is required for a three-party conference (C6D) and is also a prerequisite for the six-party conference Class of Service (C6A) on analog (500/2500 type) telephones.

Dial access of Conference Control is provided only for analog (500/2500 type) telephones with a C6A Class of Service.

The number of timeslots is limited to 30 per conference loop. A maximum of five simultaneous conferences, each consisting of six conference users, is supported per conference loop.

Double conferences are blocked to avoid conference chains (i.e., set A and set B are on an established call. The user of set B presses the Conference key to call set C. Any attempt by set C to initiate another conference is blocked if set B has not yet completed the conference).

While the originating side of a call is linked to a transfer or conference key (i.e., the originator of a transfer/conference call has not yet completed the transfer/conference), the terminating side cannot initiate a transfer or conference. Conference calls cannot be transferred.

A warning tone is available for conference calls. When the option is enabled, the tone lets callers know that they are entering a conference call. The switch for this option is preset to disable the warning tone. For information on the switch settings for the NT8D17 Conference/TDS card, refer to *Circuit card installation and testing* (553-3001-211).

Feature interactions

AC15 Recall: Transfer from Meridian 1

The use of the Conference key does not activate the AC15 Recall: Transfer from Meridian 1 feature. Conference call is not supported because it is not possible to have two parties on the same trunk.

Advice of Charge for EuroISDN

If a set is participating in a conference, no charge is displayed for that set. Whenever an ISDN CO trunk that provides AOC is added to a conference, the call charging information, received from the network, accumulates against the set that initiates the call.

Once the last set involved in a conference call disconnects, a search is made of all trunks remaining in the conference call to determine which trunk has been established in the call for the longest period of time. This trunk becomes the chargeable TN. Once this trunk disconnects, the process is repeated so a new chargeable TN can be located.

Attendant

Three-party Conference (C6D) allows analog (500/2500 type) telephones on established calls to flash the switchhook and Dial 0 to talk to the attendant. Six-party conference users follow the same sequence, but the conference loop is seized and the call is treated as a conference call. When only two parties remain from the conference, the call is returned to a simple call if neither of the remaining parties is an Attendant Console.

Attendant Barge-In Busy Verify

Conference Control cannot be activated if an attendant has used Barge-In or Busy Verify during a conference that involves a trunk.

Attendant Break-In

If the attendant cannot break in to a conference call because the call is supporting the maximum number of callers, busy tone continues and the Break-In key lamp flashes.

Autodial Tandem Transfer

This feature is not allowed during a conference call.

Automatic Redial (ARDL)

When an ARDL call is not accepted by the calling party, the Conference (A03 or A06) key is ignored if pressed.

Call Forward All Calls

On analog (500/2500 type) telephones, Call Forward All Calls can be activated or canceled during a conference call.

Call Page Network Wide

A station set or Attendant Console that conferences an external PAGENET uncontrolled call is not blocked. However, an external PAGENET controlled call is blocked.

Call Pickup

This feature cannot be activated during a conference call. Meridian 1 proprietary telephones can activate Call Pickup if an idle Directory Number (DN) key is available. The conference call must be put on hold before pressing the idle DN key to pick up the call.

Call Transfer

Conference can be used to transfer calls, eliminating the need for a separate Call Transfer key/lamp pair on Meridian 1 proprietary telephones. Calls in the ringing state cannot be transferred with Conference. The third party must answer before the transfer can be completed.

A conference can also be established after initiating a Call Transfer operation. After the third party answers, pressing the Conference key establishes a three-way conference.

When a switchhook flash transfers calls on analog (500/2500 type) telephones with three-party conference (C6A) Class of Service, the transferring party goes on hook, leaving the other two parties established. Telephones with a C6A Class of Service involved in a conference having more than three parties must add the last party to the conference, then flash the switchhook and go on hook to complete the transfer.

Calling Party Privacy

The Calling Party Privacy feature will pass the Privacy Indicator to the terminating set to inhibit the display of the Calling Party Name and Number if the Conference feature is used for the purpose of performing a transfer.

Dial Access to Group Calls

The Conference feature cannot be applied to a Group Call.

Dial Intercom Group (DIG)

If an analog (500/2500 type) telephone is part of a Dial Intercom Group (DIG), the user of the telephone can conference only with another user whose telephone is within the same Dial Intercom Group (DIG).

Enhanced Override

Telephones involved in conference calls cannot be force camped on or Priority Overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Forced Camp-On

Telephones involved in conference calls cannot be force camped on. Overflow tone is returned to telephones attempting Forced Camp-On.

Group Call

Neither Call Transfer nor Conference can be initiated during a Group Call. If an analog (500/2500 type) telephone user flashes the switchhook during an established Group Call, the user is dropped from the call.

Hot Line

A Flexible Hot Line (non-enhanced) telephone cannot place conference calls, but an Enhanced Hot Line telephone can activate the conference feature. If the Hot Line restriction option is set, the conference call can terminate only to other Hot Line telephones. If the restriction option is not set, the conference call can terminate to any type of telephone.

ISDN QSIG Call Completion

A Call Completion request cannot be made on a conference call attempt.

ISDN QSIG Name Display

An incoming QSIG call with name display presentation allowed is conferenced locally. When a conferee drops out of the conference, calling party's name information is displayed and is passed on to another conferee. Name display information remains until the last local set remains on the call. With presentation restricted, the calling party's name information is not displayed as conferees leave the call.

Malicious Call Trace

When a station or console that is on the conference loop activates the MCT feature, the trace record shows only the conference loop number and conference number as the ORIGIN, and the Terminal Number (TN) of the station or console that activated the feature as the TERTN. No information on the other parties in the conference is given.

Meridian 911

When a call is answered, and then conferenced, the trunk priority is lost (the conference consultation call is an internal call and treated as low priority by the software). This operation is the same for normal calls and 911 calls.

Meridian 911 Call Abandon

M911 abandoned calls cannot be conferenced.

Meridian Mail (VOM) Conference Control

Three- and six-party conference allows 2500 telephones to disconnect from Meridian Mail by dial access during a conference call.

A 2500 telephone on an established call flashes the switchhook to place the existing call on Consultation Hold. After receiving special dial tone, the user dials the third party. If the third party does not answer, the call is forwarded to Meridian Mail. If the 2500 telephone flashes the switchhook again, a three-party conference is established, including Meridian Mail. If the user does not flash the switchhook at this time, Privacy is in effect and the user can disconnect from Meridian Mail by dial access before returning to the original call. This can be done if the user is in conference or on a simple two-party call.

To disconnect from Meridian Mail, press octothorpe (#) to stop the recorded greeting, octothorpe (#) to stop recording your message, and 83 to disconnect. To disconnect from any other message system connected to Meridian 1 Option 11C Compact, press 3 to stop the recorded message and the asterisk (*) to disconnect.

Multi-Party Operations

Users of analog (500/2500 type) telephones cannot make a conference call while connected to a dictation or paging trunk.

Multi-Party Operations – Call Join

The Call Join feature allows a user of a Meridian 1, Meridian 1000 series, or digital telephone to conference in or transfer a third party to a party held on the user's telephone, without having to dial the third party. The user can then hang up.

Multi-Party Operations – Three-Party Service

The patience tone or the Misoperation ringback is not applied to a conference party.

Override

A conference call cannot be entered by using Override.

Priority Override

Telephones involved in conference calls cannot be overridden. Overflow tone is returned to telephones attempting Priority Override.

Recorded Announcement Trunk

A Recorded Announcement (RAN) trunk cannot be Conferenced.

Ring Again

During a conference call, Ring Again cannot be activated

Supervised Analog Lines

If a terminal device answers an incoming call and then initiates a conference, no battery reversal answer supervision signal is extended to the terminal device when new parties of the conference answer. However, a hook flash disconnect supervision signal is extended to the terminal device when the last party in the conference disconnects.

If a terminal device initiates a conference, battery reversal answer supervision is extended to the terminal device when the first party answers. No polarity change is made when additional parties are added to the conference. The polarity is reverted to normal when the terminal device disconnects or when the last party in the conference disconnects.

Trunk Access from any Station (TAFAS)

A switchhook flash on analog (500/2500 type) telephones results in special dial tone. Dialing SPRE + 4 (TAFAS access code) then picks up an incoming TAFAS call. A second switchhook flash reconnects the user to the original conference call. The call picked up by TAFAS is put on Consultation Hold. No other action can be taken with a call picked up in this way during an established conference call.

Trunk Barring

The originator of a conference call can connect only to a barred route on a consultation basis. A switchhook flash from an analog (500/2500 type) telephone results in a reestablished connection with the Originating Trunk Connection. The user of a Meridian 1 proprietary telephone must release the barred connection to return to the Originating Trunk connection, or the conference containing the Originating Trunk connection; operating the Conference key on a Meridian 1 proprietary telephone has no effect. An attendant may return to the Originating Trunk Connection, or the conference containing the Originating Trunk Connection, by releasing the barred connection. This is done by pressing the RLS DEST key; pressing the Conference key has no effect.

Trunk to Trunk Connection

Trunk to Trunk connection allows external trunks to remain established in a call, provided that all external trunks involved have disconnect supervision. With respect to charging costs associated with a conference call, once the last set involved in the conference call disconnects, a search is made of all remaining trunks in the call to determine which call is established in the call for the longest period of time. This trunk is the chargeable Terminal Number (TN). This process is repeated to find the next chargeable TN.

500/2500 Line Disconnect

If one of the parties in the conference is connected to a 500/2500 port that is in turn connected to a Voice Response Unit (VRU), dial tone is provided to the 500/2500 port when all the other parties in the conference disconnect. This feature enhancement applies in the same way to Call Transfer and Hunting.

Feature packaging

Conference is included in basic system software.

Feature implementation

LD 10 – Add/change Conference 3 or Conference 6 for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(XFD), XFA (C6D), C6A	(Deny) allow transfer Class of Service. (Deny) allow six-party conference (C6A requires an XFA Class of Service).

LD 11 – Add/change Conference 3 or Conference 6 for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx AO3/AO6	Add a Conference 3 or Conference 6 key (must be key 23 for the M3000). xx = key number.

Feature operation

To add a new party to an established call on a Meridian 1 proprietary telephone, follow these steps:

- 1** Press **Conference**.
The first party is on hold and you receive a dial tone.
- 2** Dial the number of the new party.
When the new party answers, you may talk privately.
- 3** Press **Conference** to include all parties in the call.
- 4** To add more parties to the conference (up to six, including yourself), repeat steps 1-3.

Note: If you make a mistake while dialing or receive a busy signal, press RLS to disconnect. To return to the call, press the key beside the fast flashing indicator.

To add a new party to an established call on an analog (500/2500 type) telephone, follow these steps:

- 1** Flash the switchhook.
You hear three beeps followed by dial tone. The first party is on hold.
- 2** Dial the telephone number of the person to be included in your call.
When the call is answered, you may talk privately with the new party.
- 3** Flash the switchhook to include all parties in the call.
- 4** To add more parties to the conference (up to six, including yourself), repeat steps 1-3.

Note: If you make a mistake while dialing or receive a busy signal, flash the switchhook to return to the original caller.

Conference Warning Tone Enhancement

The Conference Warning Tone Enhancement feature was developed to meet the Italian requirements to distinguish between a conference warning tone and a true intrusion. A Conference Warning Tone warns users that they are involved in a conference connection. An Intrusion Tone warns users involved in a conference of an intrusion into their connection.

Prior to this development, the Intrusion Tone was also used as a Conference Warning Tone, and the two tones could only be distinguished by their cadences, not by their tone frequency. With this feature, a separate Conference Warning Tone can be defined, with its tone and cadence defined in LD 56. This tone and cadence can only be programmed in Flexible Tones and Cadences (FTC) table 0.

The Conference Warning Tone can be enabled or disabled via the CWFT prompt in LD 97. When the tone is enabled, a permanent speechpath connection is placed from the tone circuit to the conference circuit to provide the tone to all parties connected in a conference. The tone and cadence for the Conference Warning Tone can be programmed to be distinctively different from the tone and cadence produced by the Intrusion Tone given by such features as Barge-In, Break-In, or Busy Verify.

Operating parameters

This feature only applies to the Meridian 1 Option 11.

The Conference Warning Tone will only be contained and defined within FTC Table 0. All other FTC tables will not contain any references to the Conference Warning Tone and this tone cannot be copied to any other FTC table by a numbered response to the DFLT (Default to existing FTC tone table) prompt in LD 56. Since existing code does not allow FTC table 0 to be deleted, there is no danger of deleting the Conference Warning Tone.

For cadence tables, table numbers above 15 should be chosen for the Conference Warning Tone, because cadence tables numbers below 15 are influenced by Software Controlled table numbers.

Feature Interactions

Tones and Cadences

There are no changes to the limitations to cadence numbers entry values. The same restriction still applies.

Feature packaging

The Conference Warning Tone Enhancement feature is part of base system software.

Feature implementation

LD 56 – Configure Conference Warning Tone.

Note: Only Option 11 systems will see changes to this overlay. All other system types will not be presented with Conference Tone header and prompts.

Prompt	Response	Description
REQ	CHG	Modify existing data.
TYPE	FTC	Flexible Tones and Cadences data block.
TABL	0	FTC table number 0. Only table number 0 can be used to make changes to the Conference Warning Tone.
...		
RING	NO	Modify the ringing feature definitions.
HCCT	YES	Modification of the hardware controlled cadence tone definitions allowed.
...		
- EEST	NO	End-to-end Signaling type.
- CFWT		Conference Warning Tone.

-- XTON	0-(3)-255	The Conference Warning Tone number. A tone number provided by the tone circuit.
-- XCAD	0-(19)-255	The Conference Warning Tone cadence number. Cadence number must have been previously set up within LD 56 by responding to the TYPE prompt with FCAD.

LD 97 – Enable Conference Warning Tone.

Prompt	Response	Description
REQ	CHG	Modify existing data.
TYPE	XCTP	Conference/TDS/MF Sender card parameters.
CPAD	(0) 1	Conference pad values. Use software pad values. Use pad values defined by switch settings.
DTMF	0-(14)-255	Tone table of the first Dual-tone Multifrequency digit to be used.
CFWT	(NO), YES	(Disable) enable Conference Warning Tone.

Feature operation

No specific operating procedures are required to use this feature.

Controlled Class of Service

Controlled Class of Service (CCOS) alters the Class of Service restriction levels on telephones that have been defined as CCOS controlling telephones. This applies to Meridian 1 proprietary telephone users designated as CCOS controllers. While CCOS is active, Public Exchange/Central Office or toll calls made from these telephones cannot be completed without first being routed through an attendant.

Meridian 1 proprietary telephones designated as CCOS controlling telephones are assigned a CCOS key/lamp that is used to activate or cancel the system-defined CCOS restriction level on individual DNs.

Operating parameters

Controlling telephones can be any Meridian 1 proprietary telephone.

CCOS controlling telephones must refer to the Prime Directory Number (PDN) when activating or canceling CCOS on other telephones.

Automatic Call Distribution (ACD) agents cannot be restricted by CCOS.

Feature interactions

Authorization Code

The Authorization Code overrides a telephone's CCOS restriction level.

Conference

If CCOS is activated at a telephone involved in a conference call, established Central Office or toll calls are not affected. The CCOS restriction level is applied immediately, and no new calls can be initiated from the conference. The telephone remains in the CCOS active state after the conference is terminated.

Multiple Appearance DN

CCOS restriction levels are activated or canceled on controlled telephones through their Prime Directory Number (PDN). When the PDN of a Meridian 1 proprietary telephone is made CCOS active, all DNs on that telephone are also restricted. If the DN is a PDN on other telephones, those telephones are also restricted (if they have CCSA Class of Service).

Scheduled Access Restrictions (SAR)

During normal hours, CCOS restrictions override normal telephone restrictions. During off-hour periods or times when an SAR LOCK is in effect, however, Scheduled Access Restrictions apply. When the LOCK or off-hour period ends, CCOS restrictions continue to apply until they are removed or SAR becomes effective again. Whether a CCOS controller or electronic lock is used to activate CCOS, there is no indication to the user when Scheduled Access Restrictions are in effect, overriding CCOS restrictions. A telephone defined in LD 10 or 11 or a trunk defined in LD 14, which is assigned an SAR group number, has its Class of Service defined by the SAR schedule of its SAR group.

Feature packaging

Controlled Class of Service (CCOS) package 81 has no feature package requirements.

Feature implementation

LD 15 – Add/change CCOS for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB CCS	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CCRS	UNR CUN CTD TLD SRE FRE FR1 FR2	Unrestricted. Conditionally unrestricted. Conditionally toll-denied. Toll-denied. Semi-restricted. Fully restricted. Fully restricted 1. Fully restricted 2.

LD 11 – Allow/deny CCOS on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(CCSD), CCSA	(Deny) allow CCOS.

LD 10 – Allow/deny CCOS on analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(CCSD), CCSA	(Deny) allow CCOS.

LD 11 – Add/change CCOS controlling telephone assignments on Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx COS	Assign CCOS controlling key.

Feature operation

To activate CCOS, follow these steps:

1 Press **CCOS**.

Note that this is a toggle: If CCOS is already active, pressing the key will change the CCOS state to inactive. Check the CCOS lamp to determine if CCOS is already active.

2 Dial the Prime Directory Number (PDN) of the telephone to be changed and press **CCOS**.

3 Press **Rls**.

To deactivate CCOS, follow these steps:

- 1** Press **CCOS**.
- 2** Dial the PDN of the telephone to be returned to its original Class of Service and press **CCOS**.
- 3** Press **Rls**.

Controlled Class of Service, Enhanced

Enhanced Controlled Class of Service (ECCS) allows a controller or Attendant Console to alter the Class of Service (CLS) restriction levels of other Controlled Class of Service (CCOS) telephones. The feature allows two customer-defined levels of restriction. In addition, the CCOS key can now be assigned to an Attendant Console and M3000 telephones as a programmable key.

Operating parameters

Controlling telephones can be any Meridian 1 proprietary telephone.

A CCOS controlling telephone must refer to the Prime DN when activating or canceling CCOS on other telephones.

Automatic Call Distribution (ACD) agents cannot be restricted by CCOS.

On M3000 telephones, the CCOS key can be assigned as a programmable key (0-5 only).

This feature is applicable only when the CLS lamp is lit on the controlling telephone.

The CLS key on an Attendant Console can be used only on an idle loop. (The loop lamp is lit; source and destination lamps are dark.)

Feature interactions

Attendant Administration

This feature cannot change Controlled Class Service restrictions (CCRS), ECC1 or ECC2, but can assign CLS keys to certain telephones.

Authorization Codes

The Authorization Code can override a telephone's CCOS restriction level.

Conference Calls

If CCOS is activated at a telephone on a conference call, established Public Exchange/Central Office or toll calls are not affected. The CCOS restriction level is applied immediately; however, no new calls can be initiated from the conference. That telephone remains in the CCOS state after the end of the conference.

Coordinated Dialing Plan (CDP)

The internal DN is used for programming the CLS level for CDP from the controlling telephone.

Multiple Appearance DNs

All CCOS restriction levels are activated and canceled from the Prime Directory Number (PDN) for CCOS controlling telephones. The PDN for an SL-1 telephone is made CCOS active, and all DNs for that telephone are restricted as well. If that DN is a PDN on other telephones, they are also restricted (if they have CCSA Class of Service).

Pretranslation

The DN used to program the CCOS should be the actual DN before pretranslation. When programming CCOS, the DN entered is not pretranslated.

Supervisory attendants

When the attendant is in the supervisory mode, CCOS programming is prohibited.

Feature packaging

Enhanced Controlled Class of Service (ECCS) package 173 requires:

- Controlled Class of Service (CCOS) package 81.

Feature implementation

LD 15 – Define the Class of Service restrictions for the system.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB CCS	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CCRS		CCOS restrictions.
	(UNR)	Unrestricted service.
	CTD	Conditionally Toll Denied.
	CUN	Conditionally Unrestricted.
	FRE	Fully Restricted.
	FR1	Fully Restricted level 1.
	FR2	Fully Restricted level 2.
	SRE	Semi-Restricted.
	TLD	Toll Denied.
- ECC1	xxx	Enhanced Controlled Class of Service, Level 1. xxx = (UNR), CTD, CUN, FRE, FR1, FR2, SRE, TLD.
- ECC2	xxx	Enhanced Controlled Class of Service, Level 2. xxx = (UNR), CTD, CUN, FRE, FR1, FR2, SRE, TLD.
Note: Input restrictions apply when CCSA is active. When CCSA is inactive, the telephone has the CLS assigned in LD 10/11.		

LD 11 – Assign keys for the controller telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx COS	Key number for CCOS key on controller telephone (for the M3000, the key must be 0-5).

LD 10 – Configure controlled analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(CCSD), CCSA	(Deny) allow CCOS.

LD 11 – Configure the controlled Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(CCSD), CCSA	(Deny) allow CCOS.

LD 12 – Assign ECCS keys for Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx COS	Key number for CCOS controller key on Attendant Console. xx = key number (must be greater than 1).

Feature operation

To activate Enhanced Controlled Class of Service (ECCS) from a Meridian 1 proprietary telephone with the feature currently inactive, follow these steps:

- 1 Press **CCOS** to begin the activation sequence.

Note that this is a toggle: if CCOS is already active, pressing the key will change the CCOS state to inactive. Check the CCOS lamp to determine if CCOS is already active.

- 2 Dial the PDN of the telephone to be changed and press **CCOS**. The controlling telephone's display, if equipped, shows the DN of the changed telephone and a 0 (zero).

- 3 To select ECC1, dial # 1.

Note that the octothorpe (#) is required. The controlling telephone's display, if equipped, shows the DN of the changed telephone and a 1.

To select ECC2, dial # 2.

Note that the octothorpe (#) is required. The controlling telephone's display, if equipped, shows the DN of the changed telephone and a 2.

- 4 Press **RLs**.

To activate ECCS from an Attendant Console, follow these steps:

- 1 Select an idle loop key.

- 2 Press **CCOS**.

Note that this is a toggle: If CCOS is already active, pressing the key will change the CCOS state to inactive. Check the CCOS lamp to determine if CCOS is already active.

- 3 Dial the PDN of the telephone to be changed and press **CCOS**. The console's display shows the DN of the changed telephone. A 0 (zero) is displayed if the telephone is active in the original CCOS mode.

If the telephone does not have CCOS or ECCS active, the console does not acknowledge that you have successfully entered a valid CCOS DN.

- 4 To select ECC1, dial # 1.
Note that the octothorpe (#) is required. The console's display shows the DN of the changed telephone and a 1.

To select ECC2, dial # 2.
Note that the octothorpe (#) is required. The console's display shows the DN of the changed telephone and a 2.
- 5 Press **Rls**.

To deactivate Enhanced Controlled Class of Service (ECCS), follow these steps:

- 1 Select an idle loop key.
- 2 Press **CCOS**.
- 3 Dial the PDN of the telephone to be returned to its original Class of Service and press **CCOS**.
- 4 Press **Rls**.

Departmental Listed Directory Number

The Departmental Listed Directory Number (DLDN) feature allows specified telephones sharing the same numbering plan to belong to one subgroup out of a possible six subgroups within a Meridian 1 Option 11C Compact customer group. Each Departmental Listed Directory Number (DLDN) subgroup is identified by one of the customer's Listed Directory Numbers (LDNs). Calls to specific Listed Directory Numbers (LDN), or dial-0 calls from subgroup telephones, are directed to the Attendant Console or consoles assigned to that LDN.

When the Departmental Listed Directory Number (DLDN) feature is implemented, a departmental Attendant Console is presented with calls from the following sources:

- Incoming external trunk calls routed to the LDN from
 - an auto-terminate trunk (CO, FX, or WATS) whose Auto-Terminate Number (ATDN) is the LDN
 - a Direct Inward Dialing (DID) trunk whose DID number is the same as the LDN
- Calls that originate from internal telephones or TIE trunks when
 - a telephone user dials the LDN
 - a telephone user associated with a departmental Attendant Console dials 0, or
 - a TIE-line user dials the LDN.

The DLDN feature associates Attendant Consoles with an LDN. Up to 63 Attendant Consoles can be associated with one LDN.

For call distribution purposes, all Attendant Consoles within a subgroup are made members of a circular list. When a call is received, it is presented to the next listed console after the one that was last offered a call, thus ensuring that LDN calls are distributed in an equitable way. LDN calls, dial-0 calls, and associated timed recalls are serviced according to a circular list for the particular LDN.

On receiving an LDN type call, the Meridian 1 Option 11C Compact searches for an idle Attendant Console and tests whether or not that console is configured to answer a call for the dialed Directory Number (DN). If the Attendant Console is not configured to answer calls for that LDN, the next idle Attendant Console is tested. If an Attendant Console that can answer the call is found, the call is presented with the appropriate Loop and Incoming Call Indicator (ICI) lamps lit. If no idle Attendant Console for the LDN is found, the call is placed in the incoming call queue for all Attendant Consoles within the customer group.

The Call Waiting indication is provided to all Attendant Consoles within the customer group. If an Incoming Call Indicator (ICI) key has been provisioned for the LDN, a lamp indication (with no buzz) is provided to all idle Attendant Consoles within the customer group and may be answered by pressing the appropriate key.

When an attendant presses the Release key, the Meridian 1 Option 11C Compact checks to see if there are any calls waiting in the queue. If there are calls waiting, it tests whether or not the Attendant Console, if it is next in the circular list, can answer the first call in the queue. If the call can be answered, it is presented to the Attendant Console. Otherwise it is put back into the queue and another call is sought. If no calls for the LDN are found, the Attendant Console is idled and the Release lamp is lit.

Operating parameters

An optional assignment of ICI keys is allowed to provide a visual indication of the LDN (LD 15).

If the DN Expansion package is equipped, all LDNs can have up to seven digits.

Feature interactions

Attendant Overflow Position

LDN calls that have been waiting in the queue longer than the specified threshold period will be routed to the Attendant Overflow Position.

Attendant Position Busy

If all Attendant Consoles in a LDN group are in position busy, calls to that LDN are not automatically presented to any Attendant Console in the customer group and will enter the attendant queue for that customer group. Other attendants outside the LDN queue may only answer LDN calls in the attendant queue by pressing the relevant LDN ICI key, if configured. No buzz is provided as the call is in the attendant queue and not the loop key.

Call Forward

Call Forward No Answer to the attendant and Call Forward Busy operate like Call Forward to 0, and are routed to any idle Attendant Console in the customer group.

Centralized Attendant Service (CAS)

LDN calls are not screened for Centralized Attendant Service (CAS). When a CAS key is pressed at a CAS remote Attendant Console, LDN calls will be handled at the CAS main as if the DLDN feature did not exist.

Directory Number

With the Network-Wide LDN feature, telephones using DLDN have access to two additional LDNs, even though DLDN is not supported over a network.

Interdepartmental Attendant Transfers

Interdepartmental Attendant Transfers operate normally, except that if there is a recall, it will be to the appropriate department rather than to the last attendant that extended the call.

Network-Wide Listed Directory Number

DLDN is not supported over a network; however, Network-Wide LDN provides two additional LDNs for DLDN.

Night Service

DLDN does not affect Night Service (including TAFAS). Calls presented to the LDN from an external source will queue for the night bell. All other attendant calls receive busy treatment if the night Directory Number (DN) is busy.

Feature packaging

Departmental Listed Directory (DLDN) package 76 has no other package dependencies.

Feature implementation

LD 15 – Enable the Departmental Listed Directory Number feature for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB LDN	Customer Data Block. Gate opener.
CUST	0-99	Customer number.
- OPT	NLDN	Network wide LDN allowed. XLDN = Network wide LDN denied (default).
- DLDN	(NO), YES	(Disable) enable DLDN.
- LDN0	xxxx	Listed Directory Number Zero.
- LDA0	1 - 63 ALL	Attendant Consoles associated with LDN 0. The maximum number of Attendant Consoles allowed is 63.
- LDN1	xxxx	Listed Directory Number One.
- LDA1	1 - 63 ALL	Attendant Console number associated with LDN 1. The maximum number of Attendant Consoles allowed is 63.
- LDN2	xxxx	Listed Directory Number Two.
- LDA2	1 - 63 ALL	Attendant Console number associated with LDN 2. The maximum number of Attendant Consoles allowed is 63.
- LDN3	xxxx	Listed Directory Number Three.

- LDA3	1 - 63 ALL	Attendant Console number associated with LDN 3. The maximum number of Attendant Consoles allowed is 63.
- LDN4	xxxx	Listed Directory Number Four.
- LDA4	1 - 63 ALL	Attendant Console number associated with LDN 4. The maximum number of Attendant Consoles allowed is 63.
- LDN5	xxxx	Listed Directory Number Five.
- LDA5	1 - 63 ALL	Attendant Console number associated with LDN 5. The maximum number of Attendant Consoles allowed is 63.
- ICI	xx LD0 xx LD1 xx LD2 xx LD3 xx LD4 xx LD5	Incoming Call Indication for Listed Directory Numbers Zero to Five (xx = key number 00-19).
Note: To remove an LDN, enter an X before the Directory Number. An LDN cannot be removed if any Attendant Consoles are associated with it. To remove an associated Attendant Console, enter an X at the LDA prompt before the attendant number.		

LD 10 – Add or change Departmental Listed Directory Number for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u	Terminal Number.
LDN	(NO), 0-3	Telephone associated with LDN (0-3 or none). Choose NO to remove this telephone from the group.

LD 11 – Add or change Departmental Listed Directory Number for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
LDN	(NO), 0-3	Telephone associated with LDN (0-3 or none). Choose NO to remove this telephone from the group.

Feature operation

No specific operating procedures are required to use this feature.

Dial Access to Group Calls

This feature allows attendants and users of analog (500/2500 type) telephones, and Meridian 1 proprietary telephones to make a Group Call by dialing a Flexible Feature Code (FFC). Meridian 1 Option 11C Compact telephone users may continue to use a Group Call key. The customer can define whether or not the originator of the Group Call has control of the active call. In the Group Call List, if GRPC = YES, the originator has control: when the originator goes on hook, the call is terminated. If GRPC = NO and the originator goes on hook, the Group Call acts like a conference call: the call remains active until all members go on hook.

For more information on group calls, see the Group Call feature description contained in this document.

Operating parameters

All group stations must have Warning Tone Allowed (WTA) Class of Service.

Because analog (500/2500 type) telephones have no lamp state, there is no indication to the call originator that all group members have answered.

If a Group Call is originated via a FFC from a DN key of a Meridian 1 proprietary telephone, or a loop key on an Attendant Console, the DN lamp state does not display the status of the Group Call.

A Group Call member that has disconnected from the call cannot be reconnected to the call.

Feature interactions

The following features cannot be applied to a Group Call:

- Call Forward No Answer
- Call Forward Busy
- Call Join
- Call Park
- Conference
- Hunting
- Privacy Release, and
- Ring Again.

Feature packaging

Dial Access to Group Call requires Group Call (GRP) package 48, and Flexible Feature Codes (FFC) package 139.

Feature implementation

LD 18 – Modify the Group Call List table for Group Call control.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	GRP	Group Call data block.
CUST	0	Customer number.
GRNO	0-63	Number of the Group Call list.
STOR	xx yyy...y	Group member number (xx) and associated DN (yyy...y).

LD 57 – Modify Flexible Feature Codes for Group Calls.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer number.
GRPF	xxxx	Group Call code.
- GRCL	0-63	Group Call List number.

Feature operation

To make a Group Call,

- 1 Press the **Group Call** key. All group members are automatically called. The LCD indicator beside the Group Call key flashes until all members have answered. Then it lights steadily.

or

- 1 Dial the Group Call FFC. All group members are automatically called. When an originating station makes a Group Call using an FFC, all idle stations in the group are rung. Busy stations are given Call Waiting or Camp-On, if equipped, along with a special warning tone.

Dial Intercom

Dial Intercom (DI) allows a customer to arrange stations within the Meridian 1 Option 11C Compact into separate Dial Intercom Groups (DIGs). A total of 100 stations can belong to each Dial Intercom Group (DIG). One-digit dialing is required for a Dial Intercom Group (DIG) of up to 10 stations, and two-digit dialing is required for a DIG of up to 100 stations.

Meridian 1 proprietary telephones can be equipped with a separate DIG key/lamp pair for each DIG of which it is a member. Single-line telephone users can belong to only one DIG and may not have any non-DIG Directory Numbers (DNs).

Voice or ring may be specified on a DIG basis for Meridian 1 proprietary telephones. If voice is specified, an idle station rings once for two seconds. The calling party is then connected and may make a voice announcement. If ring is implemented, normal ringing is received until the called party answers. The option of an announcement or a two-way speech path is provided.

The ring option must be used if a 500 telephone is a member of the group.

Distinctive Ringing for Dial Intercom

This feature allows a user to differentiate between an incoming call and a Dial Intercom (DI) call. The Dial Intercom (DI) ringing has a different cadence than the regular Directory Number (DN) ringing and Distinctive Ringing.

Distinctive Ringing for DI is assigned on a per-customer basis. The cadence is 0.5 sec. on and 0.5 sec. off, repeatedly.

Dial Intercom Handsfree Voice Call

Dial Intercom Handsfree Voice Call is a system feature that can be used with the following telephones: M2112, M2317, and M2616.

Handsfree Voice Call provides the option of configuring VCC/DIG (with voice option) to be answered in either handsfree mode or loudspeaker only mode. Calls answered in handsfree (HVA) mode establish a two-way voice path, while those answered in loudspeaker only (HVD) mode establish only a one-way voice path from the calling telephone to the destination telephone.

Dial Intercom Handsfree Voice Call applies only to voice option DIG calls.

Operating parameters

A maximum of 2046 DIGs can be established per customer.

Calls are restricted to stations within the DIG only. Trunks cannot be accessed using the DIG key, and cannot be added to a DIG call using the Conference feature.

A DIG member number must be a single appearance Directory Number (DN) within a specified DIG.

DI analog (500/2500 type) telephones cannot dial the attendant or be dialed by the attendant.

A DI telephone cannot be assigned a member number that conflicts with the Special Prefix (SPRE) code. In the case of double-digit DIG values, the first digit cannot be the same as the SPRE code. For example, if the SPRE code is 7, the member number cannot be 7 or any number from 70 through 79. A two-digit SPRE code, such as 77, allows 99 DIG member numbers (00, 01-76, and 78-99). With no SPRE code defined, 100 DIG members are possible.

Call Transfer and Conference cannot take place to telephones outside the DIG.

Handsfree Voice Call allowed/denied is set at the system level and can only be used with digital telephones that have handsfree capabilities (such as 2112, 2317, and 2616), and requires Class of Service Handsfree Allowed (HFA) on the destination telephone, which is set at the telephone level.

Basic Rate Interface (BRI), M3000, and SL-1 telephones do not support the Handsfree feature.

Feature interactions

Auto Answer Back (AAB)

This feature is not affected by the Handsfree Voice Call feature.

Autodial Speed Call

The Dial Intercom code may be dialed using Autodial or Speed Call.

Call Forward Call Waiting

The Call Forward and Call Waiting features do not apply to a Dial Intercom appearance.

Call Pickup

Call Pickup may be used by Meridian 1 proprietary telephones if the telephones are all in the same DIG and Call Pickup Group and the ring option is specified for the DIG.

Digit Display

The digit display will be cleared when the DIG key is pressed. When the user dials the DI code, the digits of the code are displayed. When the call is answered, the DI code of the calling party appears on the display of the called party.

If either party presses the Release key or goes on hook during a DIG call, the displays of both parties are cleared. If either party presses the Hold key, the display of the holding station is cleared but the display of the other station remains unchanged. When the held call is reestablished, the holding station redisplay the DIG number of the other party.

Conference Call Transfer

When using Conference or Transfer, the voice option is not provided if the call is terminated before the conference or transfer is completed.

Station features

DI can be used in combination with the following features:

Feature	Meridian 1 proprietary telephones	Analog (500/2500 type) telephones
Autodial	•	
Speed Call	•	
Digit Display	•	
Make Set Busy	•	
Override	•	
Release	•	
Hold	•	
Call Pickup	•	•
Conference	•	•
Call Transfer	•	•
Ring Again	•	•

Feature packaging

Dial Intercom (DI) package 21 has no other package dependencies.

Feature implementation

LD 15 – Enable Dial Intercom for a customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- DGRP	(0)-253	Maximum number of DIGs that can be defined for the customer. The maximum number of DIGs allowed is 2046.

LD 10 – Add or change Dial Intercom for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change. Single line telephones cannot have both a Dial Intercom Group number and a standard DN. To add this feature, you must remove the telephone from the database and build it again, as a Dial Intercom Group member.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
DES	a...x	ODAS set designator. a...x = one-to-six character alphanumeric designator.
CUST	0	Customer number.
DIG	xxxx yy	xxxx = Dial Intercom group number (0-253). yy = member number (0-99) within the group. The maximum number of DIGs allowed is 2046.

LD 11 – Add or change Dial Intercom for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx DIG aaa bb c	Add a Dial Intercom key, where: xx = key number aaa = group number (0-253) bb = member number (0-99), and c = r (ring) or v (voice). The maximum number of DIGs allowed has increased to 2046.

LD 15 – Add or change Handsfree Voice Call for the Meridian 1 system.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(HVD), HVA	Handsfree Voice Call (Denied) allowed.

Feature operation

An example of a Dial Intercom call is listed below.

Dial Intercom Call

To make a Dial Intercom call:

- 1** Lift the handset and dial the **Intercom** key.
- 2** Dial the one- or two-digit code for the DIG member.

If your phone and the phone you are calling are configured for the voice option, you can deliver a voice message after two seconds of ringing.

To answer a Dial Intercom call when you are on a line other than your DIG line:

- 1** Release the current call or place it on hold.
- 2** Press **Intercom**.

Dial Intercom Handsfree Voice Call

Examples of both Handsfree Voice Call options are listed below.

HVA option

The originating telephone (telephone A) places a DIG call to the destination telephone (telephone B).

- Telephone B rings once.
- After one ring, telephone B automatically answers the call in Handsfree mode.

The DN and handsfree LCDs are lit and a two-way voice path is established.

HVD option

Telephone A places a call to telephone B.

- Telephone B rings once.
- After one ring, telephone B automatically answers the call in loudspeaker only mode.

The DN LCD is lit and the handsfree LCD remains dark, establishing a one-way voice path from telephone A to telephone B. At this point, telephone A is unable to hear the person at telephone B.

To establish a two-way voice path, telephone B must either go off hook, or press the Handsfree button.

Dial Pulse/Dual-tone Multifrequency Conversion

With the Dial Pulse/Dual Tone Multifrequency Conversion feature, Dial Pulse (DP) signals from analog (500/2500 type) telephones, Dial Pulse (DP) TIE lines, Meridian 1 proprietary telephones, or Attendant Consoles are automatically converted to Dual-tone Multifrequency (DTMF) signals for transmission over trunks equipped for Dual-tone Multifrequency (DTMF) service. Dual-tone Multifrequency (DTMF) signals from single-line 2500 telephones are automatically converted for transmission over rotary-dial-only trunks, such as TIE lines. This eliminates the need for duplicate dials.

DTMF calling allows the use of 2500 telephones, equipped with push-button dials, to transmit digits through audible tones to the Meridian 1 equipment. This feature provides the ability to use any combination of telephones. However, 2500 telephones cannot use DTMF to control dictation equipment when the dictation trunk is specified as Dial Pulse (DP).

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Dial Pulse/Dual-tone Multifrequency Conversions is included in base system software.

Feature implementation

No change to existing configuration is required for the Dial Pulse/DTMF Conversion feature.

Feature operation

No specific operating procedures are required to use this feature.

Dialed Number Identification Service

The Automatic Call Distribution (ACD) Dialed Number Identification Service (DNIS) shows the last three or four digits of the dialed DN received from auto-terminated Direct Inward Dialing (DID) and TIE trunks on the display for ACD agents. The maximum number of characters allowed is 27, including spaces.

1-7 digits are shown, depending on the length defined in the Route Data Block for the route on which the call originates.

DNIS on ACD and non-ACD telephones is supported.

Routing by DNIS number

Routing by DNIS number enhances call distribution within an ACD system. This allows calls to be routed to a specific ACD DN, based on the DNIS number, instead of auto-terminating as described in the DNIS description in *Automatic Call Distribution feature description* (553-2671-110).

Routing by DNIS on TIE trunks is supported.

Name Display for DNIS

Name Display for DNIS lets you assign a name to each DNIS number, and displays both the DNIS number and name for Incoming Digit Conversion (IDC) DNIS calls terminating on both ACD and non-ACD telephones. The maximum number of characters allowed is 27, including spaces.

DNIS ON CDR

For Call Detail Recording (CDR) records, the DNIS information is included in the call record after the Feature Group D digits if the customer has the DNIS and CDR packages, the route is a DNIS route, and DNIS was turned on in the Route Data Block.

DNIS across Call Modifications

This enhancement preserves the DNIS information across certain call modifications and enhances DNIS operation and functionality. This feature enhances DNIS operation and functionality for DNIS name and number display across the following call modifications:

- Conference and No Hold Conference
- Transfer
- Privacy Release
- Mixed DNs
- End-to-End Signaling, and
- Parked Call/Recalled Parked Call.

Related documents

For a complete discussion on DNIS, Routing by DNIS, Name Display for DNIS, DNIS on CDR, and DNIS across Call Modifications, refer to *Automatic Call Distribution feature description* (553-2671-110).

For information about Call Detail Reporting (CDR), refer to *Call Detail Recording descriptions and formats* (553-2631-101).

Operating parameters

There are feature requirements.

Feature interactions

INIT ACD Queue Call Restore

Call information associated with Dialed Number Identification Service is lost after system initialization and call restoration.

Meridian 911

The Dialed Number Identification Service feature is not supported on 911 trunks.

Feature packaging

Dialed Number Identification Service (DNIS) package 98.

Feature implementation

No change to existing configuration is required for the Dialed Number Identification Service feature.

Feature operation

No specific operating procedures are required to use this feature.

Digit Display

There are two types of Digit Displays: Attendant Console Digit Display and Meridian 1 proprietary telephone Digit Display.

Attendant Console Digit Display

QCW Attendant Consoles can be equipped with either an 8- or a 16-digit display. This display indicates the following:

- Dialed digits
On attendant-originated calls, Busy Verify (BVR), or Barge-In, the digits dialed by the attendant are displayed. If the dialed number hunts, the Hunt destination and the dialed Directory Number (DN) are displayed. If the dialed number is call forwarded, the forwarded DN and the dialed DN are displayed.
- Incoming calls
On incoming calls and forwarded Direct Inward Dialing (DID) calls, the trunk access code and member number are displayed. For all station dial-0 calls, the calling station DN is displayed. For recalls, the destination DN is displayed.
- Display Source/Display Destination keys
Two keys are provided to allow the attendant to display the source and destination numbers for any connection completed through the console.
- Night assignment
During the assignment of night numbers, the Display Source key may be pressed after the trunk access code and member numbers have been dialed to display the correct night assignment.

— Autodial

The DN stored against an Autodial key may be displayed by pressing the Autodial key, then the Display Source key. If using an eight-digit display assignment and if the stored DN consists of more than eight digits, the Display Source key must be pressed a second time to display the remainder of the DN. When the Autodial number is changed, the new number may be displayed by pressing the Display Source key.

— Speed Call

The DN stored against a Speed Call code may be displayed by pressing the Speed Call key, dialing the Speed Call code, and then pressing the Display Source key. When the Speed Call list is changed, an entry may be displayed by pressing the Display Source key.

— Time and Date

The time may be displayed by pressing the Display Time key on the Attendant Console. The date is displayed by pressing the Display Date key.

Meridian 1 proprietary telephone Digit Display

This feature allows the automatic display of information relevant to normal call processing and feature activation on any Meridian 1 proprietary telephone equipped with a 16-digit display. A key/lamp pair is also provided to enable the station user to obtain information manually, independent of call processing activity.

Time and Date are displayed with an additional Time and Date (TAD) key.

CAUTION

This option should not be used when a Prime DN appears on another telephone as a Prime DN. Severe real-time penalties will occur (ERR040 message).

Three display options are available:

- No Digit Display (NDD)
This is the default option.
- Automatic Digit Display (ADD)
This option allows the display of digit information during call processing. ADD allows the automatic display of a calling party number on an incoming call to the Prime DN on a telephone.
- Standard Delayed Display (DDS)
Provides calling party information, displayed after answer only.

Automatic displays will show the following:

- Number dialed
- Number of calling party
- Call Pickup
- Call Waiting party, and
- Time and date.

Press the Display (DSP) key, then the feature key to display information associated with these features:

- Buzz DN
- Call Waiting party
- Voice Call party
- Autodial number
- Speed Call number
- Ring Again party, and
- Call Forward party.

Operating parameters

Digit Display must be enabled for all console types in LD 15, using the prompt OPT.

Only telephones equipped with a Digit Display module can use this feature.

The Display Time and Display Date key cannot be assigned to key 0.

Feature interactions

Attendant Break-In

During Attendant Break-In, the Attendant Console Digit Display shows the DN of the incoming call and the destination DN until the Attendant extends the incoming call to the destination DN and releases the connection.

Autodial Tandem Transfer

Pressing the Autodial (ADL) key displays ADL digits, provided Tone and Digit Switch (TDS)/Serial Clock Transmit (SCT) is available to generate the Dual-tone Multifrequency tones for the ADL digits. Pressing the THF key clears the display.

Automatic Redial (ARDL)

Dialed numbers are displayed when the ARDL feature is activated. The calling party can dial digits even though a busy tone indication is given.

Digits dialed while on hold are not displayed. When the calling party accepts a redialed call, the dialed numbers are displayed. If the Display (DSP) key and appropriate RGA key are pressed while a call is on hold, the number redialed is displayed.

Enhanced Flexible Feature Codes - Outgoing Call Barring

Meridian 1 proprietary sets with displays do not display the Outgoing Call Barring level and the Station Control Password (SCPW) when OCB FFCs are dialed. This protects the security of the SCPW.

Enhanced Override Priority Override

The Digit Display of the telephone being overridden changes to the Directory Number (DN) of the overriding telephone once Priority Override is accomplished.

INIT ACD Queue Call Restore

Call information associated with Digit Display is lost after system initialization and call restoration.

Feature packaging

Digit Display (DDSP) package 19 has no other feature package dependencies.

Feature implementation

LD 15 – Add or change Digit Display for Attendant Consoles for each customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
CUST	0	Customer number.
- OPT	(XDP), IDP	(Exclude) include Digit Display capability for Attendant Consoles of this customer.

LD 11 – Enable or disable Digit Display for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	(NDD) DDS ADD	Telephone is not equipped with a Digit Display. Calling Party information is displayed after call is answered (delayed display source). Calling Party information is displayed during call processing (Automatic Digit Display).
KEY	xx DSP xx TAD	Add a Digit Display key (must be key/lamp pair). Add a Time and Date key (must be key/lamp pair). xx = key number.

LD 12 – Enable or disable Digit Display for each Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
DLEN	(8), 16	Digit Display entry length (the default is 8). This prompt applies to QCW consoles only.
KEY	xx DCW xx DDT xx DPD xx DPS xx DTM xx MDT xx MTM	Add display Call Waiting key. Add display Date key. Add display Destination key. Add display Source key. Add display Time key. Add display/change Date key. Add display/change Time key.

Feature operation

No specific operating procedures are required to use this feature.

Digital Trunk Interface

Digital Trunk Interface (DTI) provides an integrated interface for transmitting digital voice and data between a network loop and a DS-1 digital carrier terminal. Digital Trunk Interface operates similarly to a channel bank on the carrier side and an analog trunk on the Meridian 1 Option 11C Compact side. Digital Trunk Interface processes digitally the transmission and reception of Meridian 1 Option 11C Compact Data (mixed voice/data), as well as voice calls.

DTI interfaces to DS-1/D3 digital carriers, which may use infrared transmission, fiber-optic cables, microwave radio, satellite links, or leased T1 facilities. DTI may connect to any of the following:

- another Meridian 1 Option 11C Compact or an SL-100
- a non-Meridian 1 Option 11C Compact type system that can use T1 carrier facilities, and
- a digital Public Exchange/Central Office.

Related documents

For complete information regarding DTI, refer to the following documents:

- *Digital Trunk Interface/Computer-to-PBX Interface description* (553-2811-100)
- *Digital Trunk Interface/Computer-to-PBX Interface installation and data administration* (553-2811-200), and
- *Digital Trunk Interface/Computer-to-PBX Interface maintenance* (553-2811-500).

Operating parameters

Not applicable.

Feature interactions

Not applicable.

Feature packaging

Not applicable.

Feature implementation

Not applicable.

Feature operation

No specific operating procedures are required to use this feature.

Digital Trunk Interface and Primary Rate Interface Time Slot Reuse

This feature eliminates call blocking due to time slots being unavailable. By allowing a time slot reserved for a primary function to be reused for any subsequent requirements during call processing, all channels on Digital Trunk Interface (DTI) or Primary Rate Interface (PRI) loops will be available for use.

Time slots reserved for a particular DTI or PRI channel are stored in an unprotected data structure allowing easy access, such as a call register. Each time a new path is required for the same DTI or PRI channel, the data structure can be accessed to determine if there is a reserved time slot that can be reused. If the new path is intra-group (single-group switch), the time slot can be reused. If the new path requirement is inter-group (multi-group switch), the reserved time slot can be reused if a matching juncture slot is available.

A count is kept of the number of times that a time slot has been reused. The time slot is not idled until all reservations have been canceled.

This feature applies to the following loop types on single-group switches:

- 1.5 Mbps 24-channel DTI
- 2 Mbps 30-channel DTI
- 1.5 Mbps 23 B+D PRI
- 2 Mbps 30 B+D PRI, and
- 2 Mbps Japan Digital Multiplex Interface (DMI).

Operating parameters

This feature applies only to network enhanced machines.

Feature interactions

There are no interactions with other features.

Feature packaging

None.

Feature implementation

None.

Feature operation

No specific operating procedures are required to use this feature.

Direct Inward System Access

Direct Inward System Access (DISA) allows selected users to access the system from the public or private network by dialing a special Directory Number (DN) assigned by the customer. The number can be dialed from any Digitone telephone outside the network. Once the Direct Inward System Access (DISA) call has been answered, the user can access any of the following features and capabilities offered through Direct Inward System Access:

- Calls to any station within the customer group
- Trunk calls (such as calls to a Public Exchange/Central Office, a TIE trunk, or paging and dictation trunks)
- Basic/Network Authorization Code (BAUT/NAUT)
- Call Detail Recording (CDR) and Call Detail Recording Charge Account, and
- Basic/Network Alternate Route Selection (BARS/NARS) and Automatic Number Identification (ANI) route selection.

Each special Directory Number (DN) dialed by a DISA user is associated with a particular DISA Directory Number. Any number of DISA DNs can be assigned, provided that they are consistent with the numbering plan of the customer. Access rights are determined by the Class of Service and Trunk Group Access Restrictions (TGAR) associated with the DISA number. Calls to DISA can be placed on dedicated, auto-terminate incoming trunks (Central Office [CO], Foreign Exchange [FX], or Wide Area Telephone Service [WATS]) and TIE or Direct Inward Dialing (DID) trunks, all of which must have proper supervision.

As a safeguard against unauthorized use, an authorization code or special security code of one to eight digits can be assigned for each DISA DN. The security code must be entered before any system resources can be used. Additionally, a secure data password can be provided to enable the customer to create, modify, or remove information concerning DISA.

Operating parameters

The features not available to DISA users are those that require a switchhook flash (such as Call Transfer, Conference, Hold, or Ring Again). Also unavailable are features requiring that predefined data be assigned for the DN (e.g., Speed Call), and other features that are not applicable to DISA calls (such as Call Pickup and Call Forward).

Any CO, FX, or WATS trunk route can be designated as an auto-terminate route, allowing incoming calls in the route to terminate on one particular DN rather than going to the attendant. Several trunks can specify the same DISA DN, or each trunk can specify a different DISA DN.

Only trunks that give disconnect supervision can be used to provide access to DISA. Therefore, trunks dedicated to DISA (CO, FX, or WATS) must have a ground start signaling arrangement. Incoming DISA calls on trunks without disconnect supervision will not be allowed. For these calls, overflow tone is given to TIE, DID, and Common Controlled Switching Arrangement (CCSA) trunk calls, and calls on CO, FX, and WATS trunks are intercepted to the attendant.

Trunks dedicated to DISA may also be used as normal outgoing trunks.

Feature interactions

Access Restrictions

Access restrictions are assigned to the DISA DN as they are to any station within the system. Separate access restrictions are also assigned to authorization codes used by DISA callers.

Basic/Network Alternate Route Selection (BARS/NARS)

The BARS/NARS features function on a DISA call as if it had been originated from inside the system.

Basic/Network Authorization Code (BAUT/NAUT)

This feature can be used in conjunction with DISA to allow a user access to more resources than are normally available. The Authorization Code must be entered, in addition to the security code (if required), using the applicable Special Prefix (SPRE) code followed by the authorization access code 6, or by an applicable Flexible Feature Code. If authorization codes are required, a valid Authorization Code must be entered after the DISA security code (no SPRE code is needed).

Busy Verify

Busy Verify (BVR) applies only to DNs within the system. If an attendant tries to use the feature to enter a DISA DN, overflow tone is returned.

Call Detail Recording

If the customer and trunk route on which the incoming DISA call is being made have the applicable Call Detail Recording (CDR) options in effect, particulars of the call are recorded when it is established. There is no special indication on the CDR record that this was a DISA call. If the incoming trunk route is not specified for CDR options, recording depends on what has been specified by the customer for any outgoing trunks seized by the DISA caller.

Electronic Lock Network Wide/Electronic Lock on Private Lines

The Electronic Lock feature cannot be activated or deactivated when accessing the node through DISA.

Enhanced Night Service

It is not possible to assign a Night Service Group Number to any trunk that is a member of a route that is set to auto-terminate on a DISA DN.

Flexible Line Lockout

The defined Flexible Line Lockout treatment is provided to DISA calls.

ISDN QSIG Call Completion

Call Completion on Busy Subscriber (CCBS) and Call Completion No Response (CCNR) are not supported on Direct Inward System Access (DISA) calls when the call destination is busy.

Feature packaging

Direct Inward System Access (DISA) package 22 has no other feature package dependencies.

Feature implementation

LD 24 – Create or change the Direct Inward System Access feature for a customer.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	DIS	DISA data.
CUST	0	Customer number.
SPWD	xxxx	System secure data password (0001-9999) allows modifications to the DISA data block. 0000 = disable the password (see LD 15).
DN	xxx...x	DN for DISA access.
SCOD	X, xx...xx	DISA security code (1-8 digits). X = remove security code.
AUTR	(NO), YES	Authorization Code is not or is required.
TGAR	xx	Trunk Group Access Restriction to be applied to calls made using DISA (0-15). TGAR can be from 0 to 31.
NCOS	xx	Network Class of Service to be applied to DISA calls.
COS	UNR CUN SRE TLD CTD FRE FR1 FR2	Class of Service to be applied to DISA calls. Unrestricted. Conditionally unrestricted. Semi-restricted. Toll restricted. Conditionally toll restricted. Fully restricted. Fully restricted 1. Fully restricted 2

LD 16 – Define an auto-terminate trunk route for Direct Inward System Access.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route data block.
CUST	0	Customer number.
ROUT	xxx	Trunk route number.
TKTP	aaa	Trunk type.
AUTO	(NO), YES	Route is not or is arranged to auto-terminate incoming calls on the DISA DN.
ICOG	IAO, ICT, OGT	Incoming and outgoing trunk.
ACOD	xxxx	Trunk route access code.

LD 14 – Define Direct Inward System Access DNs for trunks in an auto-terminate trunk route.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	COT, FEX, WAT	Trunk type.
TN	c u	Terminal Number.
XTRK	XUT	Universal trunk card (prompted for Superloops).
CUST	0	Customer number.
RTMB	xxx yyy	Route number and member number, where: xxx = 0-511, and yyy = 1-254.
ATDN	xxx...x	DISA DN on which incoming calls are to auto-terminate.
SIGL	GRD	Ground Start signaling.

Feature operation

To dial into the system from the public network:

- 1** Dial the DISA number. You hear a dial tone.
- 2** Dial the security code, if required.
- 3** Dial the Authorization Code, if required.

Directory Number

Flexible Attendant Directory Number

The Flexible Attendant Directory Number (FADN) specifies the Directory Number (DN) that provides access to the attendant, replacing the usual 0. The DN may be any DN in the numbering plan, but it must be used only for the attendant and in all situations in which 0 is normally used.

Operating parameters

The attendant DN may be used only for the attendant. One attendant DN is allowed per customer and all attendants must have the same DN.

Feature interactions

Automatic Redial

An Automatic Redial (ARDL) call from a Single Call Ringing (SCR) or Single Call Non Ringing (SCN) is only redialed when all sets that have the same DN are free.

An ARDL call from a Multiple Call Ringing (MCR) or Multiple Call Non Ringing (MCN) is only redialed when the originating key is free.

Directory Number Expansion (DNXP)

The attendant DN can have up to seven digits if the Directory Number Expansion (DNXP) package is equipped.

Feature packaging

Directory Number is included in base system software.

Feature implementation

LD 15 – Define or change the attendant Directory Number.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT	Customer Data Block. Gate opener.
...		
- ATDN	xxx...x	Number dialed to reach the attendant (the default is 0).

Feature operation

No specific operating procedures are required to use this feature.

Listed Directory Numbers

Each customer within the system may have up to four Listed Directory Numbers (LDNs) in the public directory on Direct Inward Dialing (DID) trunks. Each Listed Directory Number (LDN) is assigned to an Incoming Call Indicator (ICI) key, enabling the attendant to answer an incoming call appropriately. For systems without DID facilities, LDNs may be provided on incoming Public Exchange/Central Office (CO) trunks assigned to a trunk group and an Incoming Call Indicator (ICI) key on the console. Local telephones and TIE lines can call the attendant using any of the four DN's.

Operating parameters

Only four LDNs can be assigned per customer.

Feature interactions

Directory Number Expansion (DNXP)

LDNs can have up to seven digits if the DNXP package is equipped.

Feature packaging

The Listed Directory Numbers feature is included in base system software.

Feature implementation

LD 15 – Assign Listed Directory Numbers for each customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB LDN	Customer Data Block. Gate opener.
CUST	0-99	Customer Number.
- LDN0	xxx...x	LDN0.
- LDN1	xxx...x	LDN1.
- LDN2	xxx...x	LDN2.
- LDN3	xxx...x	LDN3

Feature operation

No specific operating procedures are required to use this feature.

Multiple Appearance Directory Number

DNs can appear on more than one multiline telephone, and can be shared between those telephones and single-line telephones. 30 appearances of the same DN are allowed on NT, RT, XT, 51, 61, 71, and 81 systems only. Four multiple-appearance options are provided, as follows:

- Multiple Call Arrangement with Ringing (MCR)
- Multiple Call Arrangement without Ringing (MCN)
- Single Call Arrangement with Ringing (SCR), and
- Single Call Arrangement without Ringing (SCN).

The customer can specify which of the four options applies to each appearance of the DN. 30 Multiple Appearance Directory Numbers (MADNs) are allowed on NT, RT, XT, 51, 61, 71, and 81 systems only.

Multiple Appearance Directory Numbers (MADNs) are not restricted to telephones connected to the same loop. Telephones with MADNs can be assigned to different loops if the Loop Removal enhancement is allowed in LD 17 under the prompt MLDN.

A Multiple Appearance, Multiple Call Arrangement is available between Meridian 1 proprietary telephones only. It allows as many calls to be in progress as there are appearances of the DN. Selection of the ring option allows the DN to be rung whenever an incoming call is directed to the idle DN.

Selection of the no ring option causes the DN appearance not to ring when an incoming call is directed to the DN. Indication of an incoming call is limited to a flashing lamp associated with the DN.

Multiple Appearance, Single Call Arrangement DNs allow a single call to be active on the DN, irrespective of its number of appearances. Multiple Appearance, Single Call Arrangement is available to all telephones.

Selection of the ring option allows ringing to accompany lamp flashing when a call is directed to a DN. Privacy is inherent in active calls, except in a mixed arrangement – analog (500/2500 type) and Meridian 1 proprietary telephones with an appearance of the same DN.

Call redirection parameters such as Hunt and Call Forward No Answer are derived from the TN data block (LD 20 TNB) of the prime appearance of the called DN. If there is more than one prime appearance, the parameters are selected from the last TN in the DN block for the DN (LD 22 DNB).

If more than one prime appearance of an MADN exists, the information noted in the following list must be considered prior to configuring call redirection parameters for MADNs.

- The DNB organizes MADN information in numerical TN order. The TN with the highest numerical value (000-0-06-03) is placed at the beginning of the DN list. The list then continues in descending order with the lowest numerical TN (000-0-03-01) at the end of the list.
- If a telephone undergoes Service Change, the TN of the telephone is moved to the beginning of the DN list regardless of the numerical value of the TN. This telephone remains at the beginning of the list until another telephone undergoes Service Change or a SYSLOAD is performed. A SYSLOAD restores the DN list to numerical TN order.
- If a DN is assigned as a prime DN on one telephone, and as a secondary DN on one or more telephones, the DN list is still organized as described in the preceding text. However, if only one prime appearance of a DN exists, call redirection parameters are derived from the TN of the prime appearance telephone, even though it may not be at the end of the list. A prime appearance is always the first TN used when the system looks for call redirection instructions.
- If a DN appears on analog (500/2500 type), and Meridian 1 proprietary telephones simultaneously, the analog (500/2500 type) telephones are listed in numerical TN order at the top of the DN list, and Meridian 1 proprietary telephones are listed in numerical TN order at the bottom of the list. A service change to an analog (500/2500 type) telephone moves the TN of that telephone to the beginning of the list. A service change to a Meridian 1 proprietary telephone moves the TN of the telephone to the end of the list. A SYSLOAD restores the list to numerical TN order, with analog (500/2500 type) telephones at the top of the list and Meridian 1 proprietary telephones at the bottom of the list. Call redirection parameters continue to be derived as described in the preceding text.

It is not necessary to change any data to register service change activity. To put a telephone at the end of the list, simply call up the service change data and default through the data.

Operating parameters

Multiple Appearance, Multiple Call Arrangement is limited to Meridian 1 proprietary telephones. If telephones are mixed, only Multiple Appearance, Single Call Arrangement is allowed.

For Multiple Appearance, Single Call Arrangement, the no ring option is limited to Meridian 1 proprietary telephones.

If more than 20 MADNs appear on an ST or an Option 21, at least one appearance must be defined on key 0. Additionally, the key 0 appearance must be the last key defined in the database. If more are added later, remove the key 0 appearance, and reenter it last.

Feature interactions

Automatic Wake Up FFC Delimiter

For Multiple Appearance Directory Numbers, wake up information is stored, deleted and queried from a DN's first primary appearance terminal number.

Call Waiting Redirection

The Call Waiting Redirection feature applies to unanswered Call Waiting calls which apply to single appearance DNs and primary appearance DNs of MADNs.

DNXP (DN Expansion)

The DN can have up to seven digits if the DNXP package is equipped.

If Loop Restriction Removal is allowed, telephones with MADNs can be moved across loops using Automatic Set Relocation (LD 25), the Meridian 1 proprietary telephones data block (LD 11), the analog (500/2500 type) telephone data block (LD 10), or Attendant Administration.

Loop Restriction

If Loop Restriction removal is not allowed, telephones with MADNs can be moved by using the Automatic Set Relocation feature (LD 25), or the Attendant Administration feature.

Privacy

If a Multiple Appearance, Single Call Arrangement (SCR) or Single Call Arrangement without Ringing (SCN) DN is shared by Meridian 1 proprietary digital telephones only, Privacy is in effect. No one can enter a call unless the call is first placed on Hold, or unless Privacy Release is activated to allow another appearance to enter the call. If this configuration is shared between these telephones and single-line telephones, Privacy is not in effect for any appearance of the DN. Anyone sharing the DN can enter the call at any time.

Privacy Release

Privacy Release has no effect on Multiple Appearance, Multiple Call Arrangement with Ringing (MCR), or Multiple Call Arrangement without Ringing (MCN) calls.

Feature packaging

Multiple Appearance Directory Number is included in base system software.

Feature implementation

LD 11 – Assign a Multiple Appearance Directory Number key.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx MCN yyy...y	Add a multiple-call non-ringing DN key, where: xx = key number, and yyy...y = DN.
	xx MCR yyy...y	Add a multiple-call ringing DN key, where: xx = key number, and yyy...y = DN.
	xx SCN yyy...y	Add a single call non-ringing DN key, where: xx = key number, and yyy...y = DN.
	xx SCR yyy...y	Add a single call ringing DN key, where: xx = key number, and yyy...y = DN.

Feature operation

No specific operating procedures are required to use this feature.

Single Appearance Directory Number

A Single Appearance Directory Number (SADN) may be assigned to any type of telephone.

Operating parameters

A Single Appearance Directory Number (SADN) is a DN that appears only once within a customer group.

Feature interactions

DNXP (DN Expansion)

The DN can have up to seven digits if the DNXP package is equipped.

Feature packaging

Single Appearance Directory Number is included in base X11 system software.

Feature implementation

LD 10 – Assign a Directory Number.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Analog (500/2500 type) telephone.
TN	c u	Terminal Number.
...		
DN	x...x	Directory Number. Up to four digits; up to seven digits with DNXP package 150.

LD 11 – Assign Single Appearance Directory Number keys.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
KEY	xx SCN yyy...y	Add a single-call non-ringing DN key, where: xx = key number, and yyy...y = DN.
	xx SCR yyy...y	Add a single-call ringing DN key, where: xx = key number, and yyy...y = DN.

Feature operation

No specific operating procedures are required to use this feature.

Prime Directory Number

The bottom key on a Meridian 1 proprietary telephone is the Prime DN. It is preselected for call origination. If a user wishes to place or receive a call on any other DN, the key must be manually selected.

Operating parameters

Prime DN applies only to Meridian 1 proprietary telephones. Only one Prime DN is allowed per telephone.

Feature interactions

Automatic Wake Up FFC Delimiter

Pressing the Prime Directory Number or Release key, when programming a Wake up request, cancels the programming sequence. If an invalid timer is entered, the user hears an error tone. If another feature key is pressed during programming, it is ignored by the system.

Feature packaging

Prime Directory Number is included in base system software.

Feature implementation

Assign key 0 as the Prime DN in LD 10.

Feature operation

No specific operating procedures are required to use this feature.

Network-Wide Listed Directory Number

The Network-Wide LDN (NLDN) feature makes it possible to configure two additional LDNs on an Attendant Console, for a total of up to six LDNs.

When Network Attendant Service (NAS) is used, the LDNs are recognized network-wide, with the same LDNs configured on multiple nodes and Integrated Services Digital Network (ISDN) messages including the DNs of the LDNs.

Operating parameters

Network-wide LDNs can be configured individually, with the NLDN/XLDN option. The LDNs to be used network-wide cannot be part of the network numbering plan, in conjunction with Distant Steering codes. If a Local Steering Code is used in conjunction with an LDN, the Network-Wide LDN feature does not affect the call because Network Attendant Services (NAS) routing is not involved. There is no dependency on any particular Electronic Switched Network (ESN) dialing plan.

If an LDN key corresponds to a dialed LDN, the call is presented on that LDN ICI key.

With the NLDN option on, the LDN ICI has a higher priority than a NAS trunk, Message Waiting Center (MWC), and Call Forward No Answer ICI.

When an NAS-routed call is answered and a second ICI key is lit, the corresponding trunk type key is also lit, if an ICI key for the trunk type exists.

If an LDN key corresponds to the forward DN of a call that is diverted via an LDN, the call is presented on the corresponding LDN ICI key.

Feature interactions

Call Forward No Answer (CFNA)

An LDN ICI has a higher priority than a CFNA ICI. When a call is forwarded to an LDN via Flexible DN, the call is presented on an LDN ICI.

Centralized Attendant Service

Centralized Attendant Service (CAS) is mutually exclusive with Network Attendant Service, which Network-Wide LDN requires for its networking functions. The network part of Network-Wide LDN does not work with CAS, but two extra LDNs can be used locally.

Console Presentation Group (CPG)

CPG does not work with the network part of Network-Wide LDN because CPG is not supported by Network Attendant Service, which the network part requires. This feature does, however, provide two additional LDNs for each Console Presentation Group.

Departmental Listed Directory Number

With the Network-Wide LDN feature, telephones using DLDN have access to two additional LDNs, even though DLDN is not supported over a network.

Network Message Services

An LDN ICI has a higher priority than an MWC ICI. When a call is forwarded to an LDN over a network to a message center, the call is presented on an LDN ICI.

Feature packaging

For the standalone case, base system software is needed.

For NAS routing, the following packages are needed: Network Attendant Services (NAS) package 159; Network Alternate Route Selection (NARS) package 58; Network Class of Service (NCOS) package 32; Basic Routing (BRTE) package 14; and any packages required to support ISDN.

To use the attendant queue thermometer, Console Operations (COOP) package 169 is required.

To use DLDN with six LDNs, Departmental Listed Directory Number (DLDN) package 76 is required.

Feature implementation

LD 15 – Assign Listed Directory Numbers for each customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB LDN	Customer Data Block. Gate opener.
CUST	0	Customer Number.
- LDN0	xxx...x	LDN0.
- LDN1	xxx...x	LDN1.
- LDN2	xxx...x	LDN2.
- LDN3	xxx...x	LDN3.
- LDN4	xxx...x	LDN4
- LDN5	xxx...x	LDN5

Feature operation

No specific operating procedures are required to use this feature.

Directory Number Delayed Ringing

There are two types of Directory Number keys: ringing; and non-ringing. The Directory Number Delayed Ringing (DNDR) feature offers the ability to provide an audible notification (e.g., ringing, buzzing, etc.) after a specified delay to non-ringing keys for a particular Terminal Number (TN). These keys can be either Single Call Non-Ringing (SCN) or Multiple Call Non-Ringing (MCN).

When an incoming call is presented to an SCN/MCN key, the associated lamp starts flashing. If Directory Number Delayed Ringing is defined for the set, an audible notification is given after a defined number of seconds (from 1 to 120 seconds). The DNDR value is defined in LD 11, and the feature is disabled if zero is selected as the delay value. When the feature is disabled all SCN/MCN keys for this particular TN will not receive audible notifications.

Operating parameters

Only Meridian 1 proprietary sets with DN key type SCN or MCN may use this feature; analog (500/2500 type) sets are not supported.

The DNDR feature is enabled on a TN basis. Thus, all or none of the SCN/MCN keys for the TN will receive the audible notification.

For a single call, two appearances of a Multiple Appearance Directory Number (MADN) may ring simultaneously if their DNDR values differ by two seconds or less.

The DNDR value can be different for multiple TNs with the same DN appearance; therefore, the audible notification may begin at different times for a single call.

Feature interactions

Any feature that works with non-ringing keys works with the DNDR feature whether or not the key is ringing.

Attendant Administration

Attendant Administration is not supported.

Attendant Recall

Automatic Timed Reminder Recalls

If a dialed set has DNDR defined, and an attendant re-extends a call without releasing it, the DNDR timing is not reset. If the value of the recall timer is less than that of the DNDR timer, the call is recalled to the attendant before audible notification begins.

Attendant Recall Enhancement

With this feature, when a call to a set is recalled to the attendant, the ringing is stopped on that set. If the attendant re-extends the call and ringing is applied again, the DNDR delay is also applied.

Automatic Wake-Up

The Automatic Wake-Up feature is not supported.

Buzzing

If a set is defined with DNDR delay and there is an incoming call to another SCN/MCN DN key on the same set, buzzing (or short buzzing) is applied after the DNDR delay timer expires.

Call Forward No Answer

Second Level Call Forward No Answer

The DNDR feature allows the SCN/MCN (non ringing keys) to actually ring after a definable period of time (DNDR prompt in LD 11). If the time before CFNA takes effect is less than the DNDR time for a particular set, CFNA will forward this call before any SCN/MCN keys can ring on this set. Note that CFNA is defined in the number of rings and DNDR is defined in seconds.

If the Forward DN set is busy or invalid when the call is forwarded, the call will return to the originally called set. However, the DNDR delay timer will be reapplied to the called set if DNDR is defined.

If a call is forwarded, as per existing operation, this call will be treated as a new incoming call to the forward DN. For example, if the forward DN has a DNDR value defined, a new timer will begin timing according to the forward DN's DNDR delay.

Call Waiting

Call Waiting tones apply to SCN/MCN keys as per existing operation. The DNDR delay does not apply, and the user is informed of the incoming call immediately.

Distinctive Ringing

The DNDR feature applies to the Distinctive Ringing feature; what applies to normal ringing with DNDR also applies to distinctive ringing.

Flexible Incoming Tones

If DNDR is enabled, the Flexible Incoming Tones buzz is delayed as with any type of audible notification.

Group Call

When a group call is made to an SCN/MCN key with DNDR defined, audible notification will be given after the DNDR delay has expired.

Data Calls**Private Line Ringing (PVN)****Private Line Non-Ringing**

These features are not supported.

Set-Based Administration Enhancements

This feature is not supported

User Selectable Call Redirection

With User Selectable Call Redirection (USCR) a user can change the number of CFNA/DFNA ringing cycles. If the user changes the CFNA/DFNA value so that CFNA takes place before the DNDR timer runs out, none of the SCN/MCN keys will receive an audible notification. See the interaction with Call Forward No Answer.

Feature packaging

Directory Number Delayed Ringing feature is part of basic system software.

Feature implementation

LD 11 – This overlay is used to configure DNDR.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
...		
DNDR	(0)-120	Delay value in seconds. A DNDR value of zero disables the feature. If the DNDR value is an odd number, it is rounded up to the next even number. If REQ = NEW, the delay value is 0 (the default); otherwise the existing value appears.
...		
KEY	xx SCN yyyy xx MCN yyyy	Key number, Single Call Non-Ringing, DN. The key must be SCN or MCN.

Feature operation

No specific operating procedures are required to use this feature.

Directory Number Expansion

This feature increases the number of digits allowed for internal Directory Numbers (DNs), from a maximum of four digits per DN to seven digits per DN. The following internal DN types have been expanded:

- Single-line telephone DNs
- Multi-line telephone DNs
- Trunk Group Access codes
- Attendant DNs (including local attendant in Centralized Attendant Service)
- Listed Directory Numbers (LDNs)
- Coordinated Dialing Plan (CDP) steering codes
- Automatic Call Distribution (ACD) DNs
- ACD position IDs
- Direct Inward System Access (DISA) DNs
- Centralized Attendant Service (CAS) hold DNs
- Release Link Trunk (RLT) DNs in Centralized Attendant Service)
- System Park DNs
- Test line DNs, and
- Data service DNs.

The following DN types are not expanded:

- Special Prefix (SPRE)
- Basic/Network Alternate Route Selection (BARS/NARS) access codes
- Route Selection Automatic Number Identification (RSANI) access code, and
- Automatic Modem Pooling (AMP) all-digital-connection prefix.

Along with Directory Number Expansion (DNXP), Call Detail Recording Expansion (CDRE) package 151 is available to allow Call Detail Recording (CDR) records to accommodate the increased digit field lengths. Call Detail Recording (CDR) package 4 and Directory Number Expansion (DNXP) package 150 are required for CDRE.

Operating parameters

The number of DNs that can be configured is limited by the available protected data store in the system.

DNXP does not enhance existing feature capability other than allowing an internal DN with up to seven digits.

If DNXP is equipped, the system communicates with any attached Auxiliary Processor (AUX), except ACD-D, in a new message format containing expanded DN fields. Therefore, the respective Auxiliary Processor (AUX) software must be upgraded to handle longer DNs in new messages.

If a message is sent to an Auxiliary Processor (AUX) that is not capable of handling expanded DNs, only the last four digits are included in the message.

Incoming Digit Conversion (IDC) translates a maximum of four digits only.

The Automatic Number Identification (ANI) calling number is always seven digits long. It is obtained by combining the Automatic Number Identification Listed Directory Number (ANI LDN) with one of the following:

- DN of the analog (500/2500 type) telephone
- Prime DN of the SL-1 telephone
- Automatic Number Identification (ANI) attendant number, specified on a per customer basis, and
- Automatic Number Identification (ANI) trunk number, specified on a per trunk group basis.

With the DNXp package equipped, if an Automatic Number Identification Listed Directory Number (ANI LDN) is not defined, then the full seven digits of an internal DN can be used as the ANI calling number. If an ANI LDN is defined and internal DNs are longer than four digits, only the leading digits of the DNs are retained in the ANI calling number.

CDRE must be equipped to allow the printing of seven-digit DNs in the CDR records. CDRE is not supported by Mini-CDR.

An Automatic Identification of Outward Dialing (AIOD) station identification number remains four digits long. If a DN is longer, only the leading digits are retained as the Automatic Identification of Outward Dialing (AIOD) station identifier.

Feature interactions

ACD-C Reports

When the DNXp package is equipped, each DN-related field is expanded to seven digits.

ACD Load Management

ACD Load Management commands have been modified to allow longer DN-related fields (ACD DN, position ID, route access code).

Automatic Identification of Outward Dialing (AIOD)

The AIOD station identifier and trunk identifier remains four digits long. If the total number of digits in the AIOD prefix and internal DN exceeds four, only the leading digits of the station DN are retained as the AIOD identifier.

Auxiliary processors

Any AUX or application processor that shares or exchanges Meridian 1 Option 11C Compact internal DN-related information with the system must be modified to handle the longer DN format. Otherwise, only the four trailing digits will be included in the message.

The presence of DNXP has an impact on the following types of AUX:

- Auxiliary Processor Link (APL)
- Application Module Link (AML)
- Standard Serial Data Interface (SDI) with application interface to the Meridian 1 Option 11C Compact
- Standard SDI without application interface to the Meridian 1 Option 11C Compact.

Background Terminal Interface (BGD)

When the DNXP package is equipped, any background terminal command, response, or display containing a DN is allowed to have a DN of up to seven digits.

Coordinated Dialing Plan (CDP)

Coordinated Dialing Plan (CDP) steering codes are expanded to a maximum of seven digits. The maximum number of digits for a complete CDP DN has increased from seven to ten (a three-digit steering code followed by a seven-digit internal DN).

With DNXP, the maximum number of leading digits to be deleted from a Local Steering Code (LSC) is expanded to seven digits, due to longer CDP numbers.

Digit and Name Display

If longer DNs are defined, the left most digits may be scrolled out on a digit display, depending on the size of the display window.

Direct Inward Dialing (DID)

Depending on the number of Direct Inward Dialing (DID) digits outpulsed by the Public Exchange/Central Office (CO), the system can insert a unique string of prefix digits to the incoming Direct Inward Dialing (DID) digits on a per DID trunk group basis to form a final internal DN. The number of digits that can be inserted for a DID (or TIE) trunk group has been expanded from six to eight digits.

Electronic Switched Network (ESN)

With DNXP, a seven-digit Location Code (LOC) call to an Electronic Switched Network (ESN) switch can be terminated to an internal DN of up to seven digits. A Digit Manipulation Index associated with a Home Location Code is used to properly terminate the calls.

Integrated Services Digital Network (ISDN)

Refer to *ISDN Primary Rate Interface description and administration* (553-2901-100).

Feature packaging

Directory Number Expansion (DNXP) package 150 has no other feature package dependencies.

Feature implementation

Service-change and print overlays with DN-related prompts and commands have been modified to accommodate seven-digit DNs if the DNXP package is equipped.

Feature operation

No specific operating procedures are required to use this feature.

Display of Calling Party Denied

Display of Calling Party Denied (DPD) permits Analog (500/2500 type) and Meridian 1 proprietary sets to either allow or deny associated name and number from being displayed on other sets when involved in a call. This feature is supported on internal calls (same node) and calls placed over a Meridian 1 Customer Defined Network (MCDN) Integrated Services Digital Network (ISDN). Display of Calling Party Denied Class of Service options are programmed on a per set basis.

DPD uses the following Class of Service options in LD 10 and LD 11: Display Digits Allowed/Denied (DDGA/DDGD) and Name Display Allowed/Denied (NAMA/NAMD).

Display of Digits Denied (DDGD) Class of Service restricts digits from being displayed on another set when involved in a call. However, on the calling party's set, the dialed digits are always displayed regardless of the Class of Service assigned to the called party's set. Display of Digits Allowed (DDGA) allows the number associated with a set to be displayed when that set is involved in a call.

Display of Name Denied (NAMD) Class of Service restricts the name associated with a set from being displayed on another set when involved in a call. Display of Name Allowed (NAMA) allows the name associated with a set to be displayed when that set is involved in a call.

[Table 19](#) outlines the possible configurations and the resulting display on both the calling and called parties' displays.

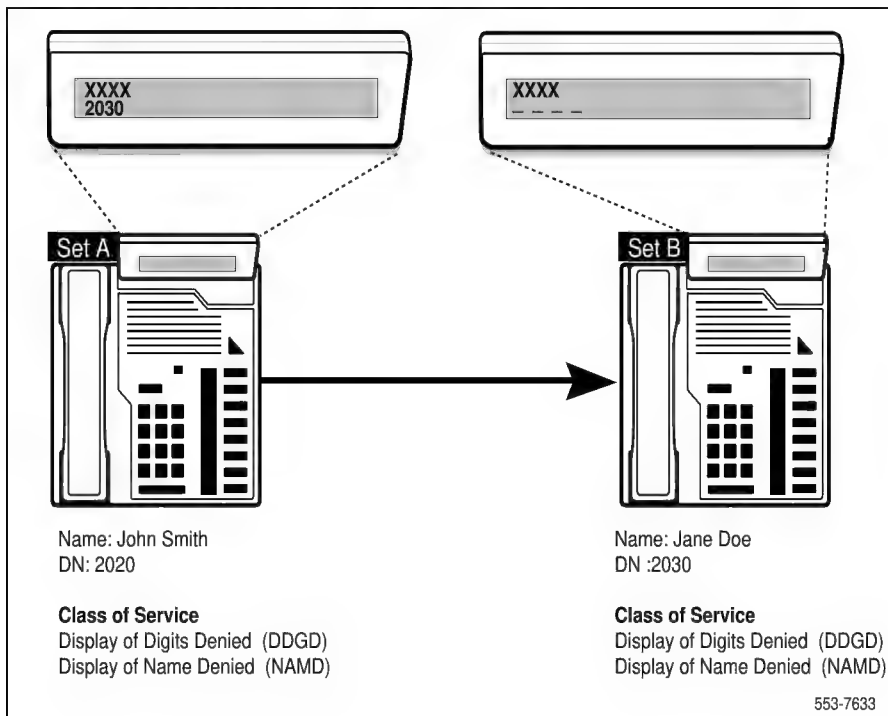
Table 19
Display Scenarios on Calling and Called Party's Sets

CALLING PARTY'S CLASS OF SERVICE	CALLED PARTY'S CLASS OF SERVICE	DISPLAY OF CALLING PARTY	DISPLAY OF CALLED PARTY
NAMA DDGA	NAMA DDGA	Name of Called Party Called Party's Number	Name of Calling Party Calling Party's Number
NAMA DDGA	NAMD DDGD	X X X X Called Party's Number	Name of Calling Party Calling Party's Number
NAMD DDGD	NAMA DDGA	Called Party's Name Called Party's Number	X X X X -----
NAMD DDGD	NAMD DDGD	X X X X Called Party's Number	X X X X -----
NAMA DDGD	NAMD DDGA	X X X X Called Party's Number	Name of Calling Party -----
NAMD DDGA	NAMA DDGD	Called Party's Name Called Party's Number	X X X X Calling Party's Number

Figure 6 illustrates the functionality of Display of Calling Party Denied (DPD) on a nodal basis when both the calling and called parties have enabled DPD Class of Service options. The calling party has configured a Digit Display Denied (DDGD) and Name Display Denied (NAMD) Class of Service. The called party has the same Class of Service options programmed. The display of the calling party's associated name and number is restricted on the called party's set. The calling party's number is replaced by a string of dashes (— — —), where each “-” represents a suppressed digit. The associated name is replaced by a string of four Xs (XXXX).

On the calling party's set, the name associated with the called party is replaced by a string of four Xs (XXXX). However, the dialed digits remain displayed on the calling set.

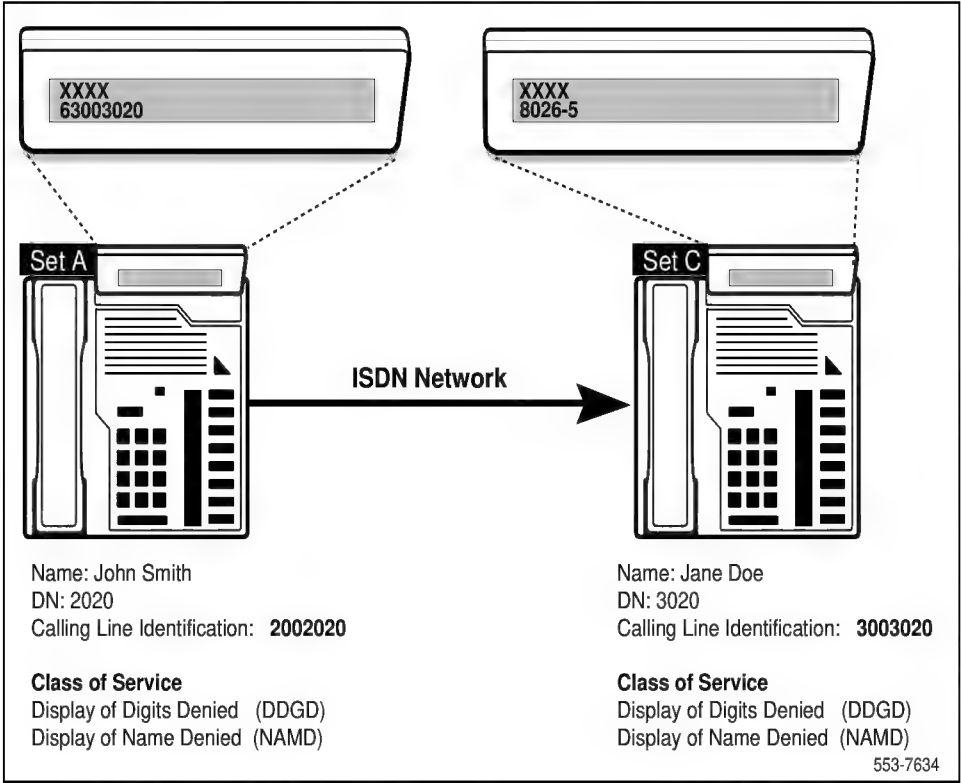
Figure 6
Calling Party and Called Party on the Same Node



As illustrated in [Figure 7](#), for calls placed over a MCDN ISDN network, Display Digits Denied (DDGD) Class of Service on the calling party's set prevents the Calling Line Identification (CLID) from being displayed on the called party's set. In this case, the calling party's CLID is replaced by the ISDN route access code and route member number. If the calling party has configured Name Display Denied (NAMD), the calling party's associated name is not displayed on the called party's set. The associated name is replaced by a string of four Xs (X X X X).

On the calling party's set, the name associated with the called party is replaced by a string of four Xs (X X X X). However, the dialed digits remain displayed on the calling set.

Figure 7
ISDN Network Calls



Operating parameters

Display of Calling Party Denied (DPD) is only supported on internal calls, Meridian 1 Customer Defined Network (MCDN) ISDN networks and the interface to the public network.

This feature does not support calls over DASS/DPNSS1 trunks.

Display of Calling Party Denied is not supported on ISDN BRI sets.

The dialed digits always appear on the display of the calling party's set. This occurs whether or not the called party has a Digit Display Denied (DDGD) Class of Service. However, if the dialed digits represent a Multiple Appearance Directory Number (MADN), the calling party's display reflects the Class of Service of the answering set.

Feature interactions

Attendant Console

An Attendant Console's display is not impacted by this feature. Display is provided to an attendant regardless of the Class of Service configured on a set. In order to allow calls placed over an ISDN network to be displayed on the Attendant Console, Network Attendant Service (NAS) must be configured.

Call Detail Recording

For internal calls, calling and called party's Directory Numbers are included in Call Detail Recording (CDR) records regardless of the set's Class of Service. For MCDN ISDN network calls, the calling party's or connected party's number is included in the CDR regardless of the set's Class of Service.

Call Forward All Type

When a set activates any of the call forwarding features, the displays given on the calling set and the terminating set are in accordance with the Class of Service of the sets involved in the call.

If the terminating set has Dialed Name Display Denied (DNDD), the display on the terminating set reflects the name and number of the calling party and the name and the number of the forwarding set.

If the terminating set has Dialed Name Display Allowed (DNDA), the display on the terminating set reflects the number of the calling party and the name and number of the forwarding set. In both cases, the terminating set's display is in accordance with the DPD Class of Service options of the calling and forwarding sets.

For a MCDN ISDN call, the calling party's Calling Line Identification (CLID) is replaced with the ISDN route access code (ACOD) and the route member number, and the calling party's name is replaced by a string of four Xs (X X X X).

The display given on the calling set of an internal call, which has been forwarded to a set within the same switch, includes the name and number of the terminating set along with the number of the forwarding set. If the DPD Class of Service options, which are specified for the terminating set, indicate that the display of the name and number of the terminating set be denied, then on the calling set, the name of the terminating set is replaced by a string of four Xs (X X X X). The number is replaced by dashes (- - -). If the number of the terminating set is blocked from being displayed on the calling set, the number of the forwarding set is also blocked from being displayed on the calling set, regardless of the DPD Class of Service options of the forwarding set. Conversely, if the display of the terminating set's number is allowed in the calling set, then the number of the forwarding set is also displayed on the calling set, irrespective of the DPD Class of Service options of the forwarding set.

Call Hold

When a call is retrieved from hold, the calling and called parties' displays reflect their individual DPD Class of Service options.

Call Park

When the Call Park timer expires on a parked call, a set's display reflects the Directory Number the call is parked against. The display does not include the name and DN of the calling party. When a parked call is retrieved by another set, display information is based on the DPD Class of Service of the individual sets.

Call Pickup

When a call is picked up from another set, the terminating set's display is in accordance with the Class of Service of the dialed and calling sets. The calling party's display includes the dialed DN, the terminating DN and the name of the terminated set. However, if the terminating set has Digit Display Denied (DDGD), then both the dialed and terminating sets' DNs are blocked from the calling party's display. The same occurs when Digit Display Allowed (DDGA) is configured on the terminating set. Both the dialed and terminating sets' DNs are displayed on the calling party's set, regardless of the Class of Service of the dialed set.

Call Transfer

When a set transfers a call, display information is updated according to the Class of Service of the respective sets. This occurs for both internal and ISDN network calls.

If an unsupervised call transfer occurs on an internal call, the DN of the terminating set is displayed to the calling party regardless of the DPD Class of Service options that are configured on the terminating set.

Calling Party Name Display

If Calling Party Name Display Denied (CNDD) is configured for a set, then the name associated with that set is not displayed when it is involved in a call. This is so regardless of the DPD Class of Service Options of that set.

Calling Party Privacy

Calling Party Privacy takes precedence over Display of Calling Party Denied on outgoing calls over a MCDN ISDN network. This precedence pertains to the display of the calling party's name and number on the called party's set.

Calling Party Privacy does not affect internal calls using Display of Calling Party Denied.

Conference

For internal conference calls, display information is not provided on any of the conferee's sets. When setting up a conference call, by conferencing one set at a time, the display on the conferee's set is in accordance with the Class of Service of the individual sets.

For network conference calls, display is provided. This is in accordance with the DPD Class of Service options of the individual sets.

Dial Intercom

Display information on sets that are involved in a Dial Intercom Group (DIG) call is based on the individual Class of Service of each set. If a DN is denied for a set involved in a DIG call, the DIG number for that set is replaced by one dash (–) in the case of 10 DIG stations. For 100 DIG stations, the DIG number is replaced by two dashes (– –).

Group Call

The calling party's display shows the DN of the last set to connect into the Group Call regardless of the Class of Service. The called set displays the Group Number only.

Hot Line

Display information on sets in a Hot Line call is based on the individual Class of Service of each set.

Meridian 911

An incoming M911 call with Automatic Number Identification (ANI) information always displays ANI digits on the terminating set regardless of the calling party's DPD Class of Service.

Meridian Mail

A calling party's name and/or DN within Meridian Mail are not impacted by this feature. When a Digit Display Denied (DDGD) call is forwarded to Meridian Mail, the calling party's DN is provided to Meridian Mail and is available when reviewing messages.

Multiple Appearance Directory Number

When a Multiple Appearance Directory Number (MADN) is dialed and ringing, the calling party's display does not show name information, provided that at least one of the MADN TNs has Name Display Denied (NAMD) Class of Service. Once a call is answered, the calling party's set reflects the DPD Class of Service options of the answering set.

The called party's display reflects the DPD Class of Service options of the calling party's set.

Multi Party Operations - Call Join

When three parties are joined using the Call Join capabilities of the Multi Party Operations feature, display information is not provided on any of the conferee's sets. When setting up a conference call, by conferencing one set at a time, the display on the conferee's set is in accordance with the individual set's Class of Service. If one set leaves a three party conference, display information on the remaining sets is based on the individual Class of Service of each set.

Network Attendant Services

When a call is placed to an attendant over an ISDN network with Network Attendant Services (NAS) configured and Calling Party Name Display (CPND) equipped, the Attendant Console displays the calling party's DN and name. The same occurs when an attendant places a call over the network; however, an Attendant Console's display shows the connected party name and number.

If NAS is not configured, the name and calling/connected party's number is displayed to the attendant provided that the calling/connected party has the Display of Calling Party Denied (DPD) Class of Service options configured to Allowed. If Class of Service options are set to Denied, then this information is not displayed to the attendant.

No Hold Conference Voice Call

Display information on sets involved in a No Hold Conference and Voice call is based on the individual Class of Service of each set.

Feature packaging

For internal calls, Display of Calling Party Denied (DPD) requires Calling Party Name Display (CPND) package 95.

For ISDN Network calls the following packages and their dependencies are also required:

- Calling Party Name Display (CPND) package 95;
- Integrated Service Digital Network (ISDN) package 145; and
- Network Attendant Services (NAS) package 159.

Note: The NAS package is required to display a calling party's name and DN on the attendant console, when using the Display of Calling Party Denied feature within an ISDN PRI private network. With NAS configured and Calling Party Name Display equipped, the attendant console will display the calling party's name and DN, regardless of the Display of Calling Party Denied Class of Service of the calling party's set. Without NAS, if the Display of Calling Party Denied Class of Service of the calling party's set is Denied, the name and DN of the calling party will not be displayed on the attendant console.

Feature implementation

LD 10 – Deny Directory Number Display and Name Display for Analog (500/2500 type) sets.

Prompt	Response	Description
REQ:	CHG	Change.
TYPE:	500	500/2500 type set data block.
TN	c u	Terminal Number.
...		
CLS	DDGD	Digit Display Denied DDGA = Digit Display Allowed (default).
CLS	NAMD	Name Display Denied NAMA = Name Display Allowed (default).

LD 11 – Deny Digit Display and Name Display for Meridian 1 proprietary sets.

Prompt	Response	Description
REQ:	CHG.	Change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number
...		
CLS	DDGD	Digit Display Denied DDGA = Digit Display Allowed (default).
CLS	NAMD	Name Display Denied NAMA = Name Display Allowed (default).

Feature operation

No specific operating procedures are required to use this feature.

Distinctive/New Distinctive Ringing

In commercial applications, the ability to have telephones with a distinctive ring is useful for distinguishing various call types. The Distinctive Ringing capability is enabled for specific trunk groups.

The Tone and Digit Switch (TDS) card provides Meridian 1 proprietary telephones with distinctive ringing cadence. This card provides a distinctive ringback tone of 440 Hz + 480 Hz on incoming calls on the designated trunks, timed for 1.64 on and 0.36 off. On single-line telephones, the normal ringing pattern is 2 on and 4 off. Distinctive Ringing for single-line telephones is 1.54 on and 0.38 off.

New Distinctive Ringing

This feature provides a new ringing cadence of 0.512 on and 0.512 off, followed by 1.024 on and 4.096 off, for all telephone types.

Distinctive Ringing for Dial Intercom

This feature allows a user to differentiate between an incoming call and a Dial Intercom call. The Dial Intercom ringing has a different cadence than regular Directory Number (DN) ringing or Distinctive Ringing.

Distinctive Ringing for Dial Intercom is assignable on a per-customer basis. The cadence is 0.5 on and 0.5 off, repeatedly.

Operating parameters

Distinctive Ringing requires 2.5 times as much “on” ringing time as routine ringing. The number of simultaneously ringing lines per ringing generator is reduced according to the proportion of incoming calls that receive Distinctive Ringing. For example, if 50 percent of all calls receive Distinctive Ringing, the number of simultaneous ringing lines is reduced from 20 to 14 per ringing generator.

The QPC609D Fast Tone and Digit Switch card, or a later version of this card, is required to implement the New Distinctive Ringing feature.

Feature interactions

Attendant calls

When an incoming trunk call is extended by an attendant, the terminating extension rings distinctively.

Call Forward Busy

Calls modified by Call Forward Busy are not given Distinctive Ringing as they terminate on the Attendant Console.

Call Waiting Redirection

The existing Distinctive Ringing CFNA feature is applied to calls from a Distinctive Ringing enabled trunk. If such an incoming call is receiving Call Waiting treatment on sets with Distinctive Ringing, CFNA, and the Call Waiting Redirection feature enabled, the DFNA timer is applied to the call instead of the CFNA timer. The Call Waiting warning tone, if enabled, is not changed by Distinctive Ringing. If that call is not answered before the expiration of the DFNA timer, CFNA treatment is given via the Call Waiting Redirection feature.

Directory Number Delayed Ringing

The Directory Number Delayed Ringing (DNDR) feature applies to the Distinctive Ringing feature; what applies to normal ringing with DNDR also applies to distinctive ringing

Flexible Tones and Cadences

With the Flexible Tones and Cadences package equipped, the SL-1 Call Park Recall Ring Cadence (RBCS) specified in LD 56 has precedence over the Distinctive or New Distinctive Ringing given for Call Park recall.

Night Service

Incoming calls terminating on a night Directory Number (DN) ring distinctively.

Meridian 1 Digital Telephones/M3000 Touchphones

The Meridian 1 digital telephone Distinctive Ringing (defined by the Class of Service in LD 11) specifies the frequency and the warble-tone rate, and does not pertain to the Distinctive Ringing feature as referred to in this feature description.

For example, suppose New Distinctive Ringing is enabled and a call comes in from a Distinctive Ringing enabled trunk. If the call terminates on a Meridian 1 digital telephone with DR2 Class of Service, it rings with DR2 (frequency and warble tone), but with a cadence of 0.512 on and 0.512 off, followed by 1.024 on and 4.096 off. This also applies to the M3000 Touchphone. If the M3000 custom ringing option is selected, Distinctive Ringing is overridden.

Telephone features

Calls modified by the following features receive Distinctive or New Distinctive Ringing:

- Call Forward All Calls
- Call Forward No Answer
- Flexible Call Forward No Answer
- Call Park
- Call Transfer
- Conference, and
- Hunting.

Feature packaging

Distinctive/New Distinctive Ringing (DNRG) package 74 has no other feature package dependencies.

Distinctive Ringing for Dial Intercom is included in Dial Intercom (DI) package 21.

Distinctive Ringing for digital telephones is included in Digital Telephones (DSET) package 88.

Feature implementation

LD 15 – Enable or disable Distinctive Ringing for Dial Intercom calls and specify Call Forward No Answer timing for trunks with Distinctive Ringing.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- IRNG	(NO), YES	(Disable) enable Distinctive Ringing for Dial Intercom calls.
DFNA	1-15	The number of triple-ringing cycles before Call Forward No Answer is activated for calls with Distinctive Ringing (the default is 4).

LD 17 – Specify Distinctive or New Distinctive Ringing.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CFN PARM	Configuration Record Gate opener.
PARM	(NO), YES	Change system parameters.
- NDRG	(NO), YES	(Disable) enable New Distinctive Ringing (DRNG). Prompted only if DRNG is equipped.

LD 16 – Enable or disable Distinctive Ringing for each incoming or incoming/outgoing trunk route.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	RDB	Route Data Block.
CUST	0	Customer number.
ROUT	0-511	Route number.
DRNG	(NO), YES	(Disable) enable Distinctive Ringing for incoming calls.

LD 11 – Specify Distinctive/New Distinctive Ringing Class of Service for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	DRGX	Distinctive ring type (DRG1), DRG2, DRG3, DRG4, where: DRG1 = high fast tone, frequency 667/500 Hz. DRG2 = high slow tone, frequency 667/500 Hz. DRG3 = low fast tone, frequency 250/333 Hz. DRG4 = low slow tone, frequency 250/333 Hz. The DRG3/4 distinctive ringing for M2006 and M2008 telephones are different: DRG3 = low fast tone, frequency 1600/2000 Hz. DRG4 = low slow tone, frequency 1600/2000 Hz.

Feature operation

No specific operating procedures are required to use this feature.

Do Not Disturb

Individual Do Not Disturb (DNDI) allows the attendant to place a particular Directory Number (DN) in Do Not Disturb (DND) mode. A DN in this mode is free to originate calls, but appears busy to incoming calls. An attendant dialing a Directory Number in Do Not Disturb mode receives a visual indication and can override it temporarily by using Busy Verify (BVR) and signal source. To activate Individual Do Not Disturb (DNDI), a separate Individual Do Not Disturb (DNDI) key/lamp pair must be assigned to each applicable Attendant Console.

Analog (500/2500 type) telephones can be equipped with a Do Not Disturb lamp. Common Control Switching Arrangement (CCSA) and LPA Class of Service must be allowed.

Calls will receive the customer-specified intercept treatment (e.g., busy tone, Recorded Announcement (RAN), or attendant). An enhancement to DND provides the ability to route calls to the Hunt DN instead of to the intercept treatment. [Table 20](#) lists possible intercept treatments based on responses to the prompts Do Not Disturb Intercept Treatment (DNDT) and Do Not Disturb Hunt (DNDH) in LD 15.

Group Do Not Disturb (DNDG) allows an attendant to place predefined groups of DNs in DND mode. A DN can belong to many DND groups.

If a DN belongs to more than one DND group, the DND status of the DN might not be consistent with the DND status of each group. For example, if one of the DN's groups is removed from DND mode, the DN is also removed from DND mode even if another group to which the DN belongs is still in DND mode.

Table 20
Do Not Disturb Intercept treatments

Call type	Hunt	DNDT = BST		DNDT = RAN		DNDT = ATT	
		DNDH No	DNDH Yes	DNDH No	DNDH Yes	DNDH No	DNDH Yes
DID							
Analog (500/2500 type)	Allow	H	H	R	H	H	H
	Deny	A	A	R	R	A	A
Meridian 1 proprietary	Allow	A	H	R	H	A	H
	Deny	A	A	R	R	A	A
H = Follow Hunt Directory Number (DN) A = Intercept to attendant B = Busy tone R = RAN treatment							

Table 20
Do Not Disturb Intercept treatments

Call type	Hunt	DNDT = BST		DNDT = RAN		DNDT = ATT	
		DNDH No	DNDH Yes	DNDH No	DNDH Yes	DNDH No	DNDH Yes
Attendant							
Analog (500/2500 type)	Allow	H	H	B	H	H	H
	Deny	B	B	B	B	B	B
Meridian 1 proprietary	Allow	B	H	B	H	B	H
	Deny	B	B	B	B	B	B
Internal							
Analog (500/2500 type)	Allow	H	H	R	H	H	H
	Deny	B	B	R	R	A	A
Meridian 1 proprietary	Allow	B	H	R	H	A	H
	Deny	B	B	R	R	A	A
H = Follow Hunt Directory Number (DN) A = Intercept to attendant B = Busy tone R = RAN treatment							

To enable Group Do Not Disturb (DNDG), the DNDI package must be equipped. DNDI allows the user to activate, cancel, and verify the presence of the feature. A separate Group Do Not Disturb (DNDG) key is assigned to each Attendant Console for activating the DNDG feature.

Operating parameters

Up to 100 groups (0-99) can be defined per customer. Each group can contain up to 127 DNs.

Up to 20 DNDG keys can be equipped on an M2250 Attendant Console. Ten DNDG keys can be equipped on a QCW or M1250 Attendant Console. Alternatively, the DNDI key plus dial-access can be used to activate DND for up to 100 groups.

To activate DNDG using a DNDG key, a group of telephones must be defined for that key (see LD 26).

For Individual Do Not Disturb (DNDI), a Direct Inward Dial (DID) call to a DN with DND active goes to the attendant if DNDT in LD 13 is set to BST or ATT. If the attendant is in Night Service, DID calls go to the night DN, if one is specified.

For Group Do Not Disturb (DNDG), if a DN is busy or has DND active, a DID caller gets a busy tone. If DNDT in LD 13 is set to CDB or RAN, and a DN is busy or has DND active, the DID caller gets RAN and then goes to the attendant.

Feature interactions

Attendant Blocking of Directory Number

The Attendant Blocking of DN feature will override the Do Not Disturb feature. If the dialed DN of the set that has the Do Not Disturb feature active is idle, the DN will be blocked and if the DN is busy, busy tone will be heard.

Attendant Break-In

For a telephone with DND in effect, Break-In is temporarily denied to the attendant. The Break-In lamp uses slow flash to indicate this situation. Using the Break-In key prior to dialing the destination DN circumvents this situation. After the Break-In, the telephone returns to its prior status.

Call Forward All Calls Hunt

If activated, Call Forward All Calls takes precedence over DND busy indication.

Call Park

Calls can be parked on and by DN's in DND mode. When a telephone in DND mode parks a call, the call will not return to the DND telephone. It recalls to the attendant.

Directory Number Expansion (DNXP)

If the Directory Number Expansion (DNXP) package is equipped, DN's can have up to seven digits.

Enhanced Override

Telephones with DND enabled cannot be force camped on or priority overridden. Overflow (fast busy) tone is returned to telephones attempting either Forced Camp-On or Priority Override.

Forced Camp-On

Telephones with DND enabled cannot be force camped on. Overflow (fast busy) tone is returned to telephones attempting Forced Camp-On.

ISDN QSIG Call Completion

An incoming notification overrides a set with Do Not Disturb (DND) activated. Call Completion requests can be applied to sets with the DND feature activated. However, this request does not advance until the DND feature is deactivated.

Night Station

A Night Station DN can be placed in DND mode.

Priority Override

Telephones with DND enabled cannot be overridden. Overflow (fast busy) tone is returned to telephones attempting Priority Override.

Private Lines

DND cannot be used on Private Lines.

Feature packaging

Do Not Disturb, Individual (DNDI) package 9 has no feature package dependencies.

Do Not Disturb, Group (DNDG) package 16 requires DNDI package 9.

Do Not Disturb Hunt requires Meridian 1 Hospitality Voice Services (MHVS) package 179.

Feature implementation

LD 15 – Specify the treatment received by calls to a number in Do Not Disturb mode.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- DNDL	(NO), YES	Do Not Disturb lamp for analog (500/2500 type) telephones.
TYPE	INT	Gate opener.
- DNDT	(BST) ATT RAN	Busy tone treatment for Do Not Disturb (DND) numbers. Attendant treatment for DND numbers. Recorded announcement for DND numbers.
- - RRT	xxx	Route number for the recorded announcement for calls to a DND number (prompted if DNDT = RAN).
TYPE	RDR	Gate opener.
- DNDH	(NO), YES	(Disallow) Allow Do Not Disturb Hunt.

LD 26 – Add or change a Group Do Not Disturb.

Prompt	Response	Description
REQ	CHG, REM	Change, remove DN in DND group.
TYPE	DND	Do Not Disturb Group data block.
CUST	0	Customer number.
GPNO	0-99	DND group to be added or changed.
STOR	xxx...x	DN to be added or changed in the DND group; repeat to add other DNs.
RMOV	xxx...x	DN to be removed from a DND group. Prompted if REQ = REM.

LD 26 – Merge one or more defined Do Not Disturb groups into another DND group, retaining their status as groups.

Prompt	Response	Description
REQ	MRG CHG REM OUT	Merge DND groups. Add a DND group from a list of merged DND groups. Remove DND group from a merged group. Remove a DND group that consists of a list of merged DND groups.
TYPE	DND	Do Not Disturb Group data block.
CUST	0	Customer number.
GPNO	0-99	Number of the DND group to be created through merging of other DND groups.
GRP1	G0-G99	Number of the first DND group to be merged (total number of members in all merged DND groups cannot exceed 127). Prompted if REQ = MRG.
GRP2	G0-G99	Number of the second DND group to be merged (total number of members in all merged DND groups cannot exceed 127). Prompted if REQ = MRG.
GRP	G0-G99	Number of the DND group to be merged (total number of members in all merged DND groups cannot exceed 127). Prompted if REQ = MRG.
STOR	G0-G99	Specify the number of the DND group to be added to a list of merged DND groups. Prompted if REQ = CHG.
RMOV	G0-G99	Specify the number of the DND group to be removed from a list of merged DND groups. Prompted if REQ = REM.

LD 26 – Print Do Not Disturb group data.

Prompt	Response	Description
REQ	PRT	Print.
TYPE	DND	Do Not Disturb Group data block.
CUST	0	Customer number.
GPNO	0-99 <CR>	DND group to be printed. Print all DND group data.

LD 12 – Add or change Individual or Group Do Not Disturb keys on an Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx DDL	Add an Individual Do Not Disturb key, where: xx = 0-19 for M2250 consoles, and xx = 0-9 for M1250 consoles.
KEY	xx GND 0-99	Add a DND group key, where: xx = 0-19 for M2250 consoles, and xx = 0-9 for M1250 consoles.

LD 10 – Enable or disable lamp for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
CLS	(LPD), LPA (CCSD), CCSA	(Disable) enable lamp. Controlled Class of Service (denied) allowed.

Feature operation

Individual Do Not Disturb

To activate DNDI using the DNDI key (Attendant Console):

- 1 Select an idle loop key.
- 2 Press **DNDI**.
- 3 Dial the DN of the telephone to place into DND mode.
- 4 Press **DNDI** again. (Ignore status of indicator.)
- 5 Press **Rls**.

To deactivate DNDI, follow the same steps.

Group Do Not Disturb

There are two ways to activate DNDG: with the DNDG key or with the DNDI key.

To activate DNDG using the DNDG key (Attendant Console):

- 1 Press **DNDG**. This key already has a defined group assigned to it. The associated indicator remains steadily lit to indicate that all telephones in that DND group are in DND mode.
- 2 Press **Rls**.

To deactivate DNDG:

- Press **DNDG**.

To activate DNDG using the DNDI key (Attendant Console):

- 1** Select an idle loop key.
- 2** Press **DNDI**.
- 3** Press the **octothorpe (#)** key.
- 4** Dial the group number.
- 5** Press **#** again.
- 6** Press **DNDI** again.
- 7** Press **RLs**.

Electronic Lock Network Wide/Electronic Lock on Private Lines

The basic Electronic Lock feature has been enhanced to provide the following capabilities:

- The feature can be implemented network wide.
- A new Class of Service, Controlled Network Class of Service (CNCS) can be selected in the Customer Data Block (LD 15).
- Locking can be implemented for Private DNs.

In a Meridian 1 Customer Defined Network (MCDN) environment, Electronic Lock Network Wide can be used to change the Class of Service of a set in a remote location. Electronic Lock Network Wide is activated or deactivated from any node by dialing the Electronic Lock Flexible Feature Code (FFC), a password, a location code, and the DN of the set to be changed. Since the password length defined at the destination node is not known at the originating node, the Station Control Password (SCPW) length (defined in LD 15) must be defined the same for all network nodes.

If the originating node has the FFC Confirmation Tone option selected, a confirmation tone is given when the feature is successfully activated or deactivated. Overflow tone is given if the operation is unsuccessful. There is no FFC verify code for Electronic Lock.

When a locked set makes an outgoing trunk call, if Controlled Network Class of Service is defined, the Network Class of Service (NCOS) defined by CNCS is used instead of the NCOS defined in LD 10 or 11 for the set. If network signaling is configured for the trunk that normally transmits the NCOS of the set between Electronic Switched Network (ESN) nodes, the CNCS is transmitted instead of the NCOS. This prevents a locked set from reaching the exchange network by tandeming through a TIE trunk using ESN.

A new prompt (PELK) is introduced in the Customer Data Block to implement Electronic Lock on private lines. If this option is enabled, an outgoing call on a private line of a locked set is subject to the same restrictions as all other DNs on the set. The same intercept treatment would be given as for a regular DN. The restrictions for private lines, as well as other DN keys on the set, are controlled by the Controlled Class of Service (CCOS), and by the CNCS if defined. Therefore, for outgoing calls, the Class of Service restrictions and/or New Flexible Code Restriction (NFCR) apply to private line keys on locked sets. Only outgoing calls are affected. The Class of Service of a non-locked set has no affect on private lines.

Operating parameters

The Network Dialing Plan must be either a Coordinated Dialing Plan (CDP) or a Uniform Dialing Plan (UDP).

The set password lengths must be equal for all nodes in the network.

Network wide operation is only supported through an MCDN ISDN network.

The Electronic Lock feature must be equipped on both originating and remote nodes.

The FFC used is defined on the node from which Network Electronic Lock is being activated. To activate or deactivate Network Electronic Lock from any remote node, the user has to use the FFC Electronic Lock Activate (ELKA) or Electronic Lock Deactivate (ELKD) code defined on that remote node.

ISDN Basic Rate Interface (BRI) sets cannot be used to lock another set, nor can they be locked themselves.

An analog (500/2500 type) telephone with a private line DN or a Meridian 1 proprietary telephone with a private line on the Prime DN cannot be locked.

The following hardware is required:

- Primary Rate Interface – D-channel Handler Interface (DCHI)/ Multipurpose Serial Data Link (MSDL) and PRI/PRI2 cards.
- Integrated Services Digital Network Signaling Link (ISL) – DCHI cards and TIE trunks.
- Virtual Network Services (VNS) – DCHI cards and any trunks.

Feature interactions

Automatic Call Distribution (ACD)

An ACD set cannot be locked.

Call Forward (CFW)

Call Forward No Answer (CFNA)

For Call Forwarding, the COS and NCOS used for the forwarding call can be taken from either the forwarding set or from the forwarded set, depending on the option defined in the Customer Data Block.

For example, set B call forwards all calls to an external trunk. Set A calls set B. If OPT = CFF in LD 15 (Call Forward forwarded to party's COS and NCOS), the COS and NCOS of set B are used for forwarding the call to the trunk. If OPT = CFO (Call Forward originating party's COS and NCOS), the COS and NCOS of set A are used for forwarding the call to the trunk.

Direct Inward System Access (DISA)

The Electronic Lock feature cannot be activated or deactivated when accessing the node through DISA.

Electronic Switched Network Authcode

If a station user enters an Authcode on the set, regardless of the status of the set being locked or not, the NCOS defined for the Authcode is used. The ESN Authcode feature overrides the Electronic Lock Network Wide feature.

Flexible Numbering Plan

If a network is equipped with a flexible numbering plan (i.e., not all the network DN's are the same length), hanging up before the usual end-of-dialing timeout cancels the request for activation or deactivation of Electronic Lock. Dialing an octothorpe (#) after the network DN will cause the request for activation or deactivation of the Electronic Lock to be sent immediately, instead of waiting for the usual end-of-dialing timeout to send it.

Multiple Appearance DN

The same locked or unlocked state applies to all Terminal Numbers with the same primary DN and the same SCPW. Terminal Numbers with the same DN, but not having the same SCPW, cannot be locked or unlocked.

New Flexible Code Restriction (NFCR)

With NFCR, toll denied stations are allowed or denied calling privileges according to the Facility Restriction Level (FRL) assigned to the NCOS defined in the protected line block. For a locked set, NFCR uses the FRL assigned to the CNCS to determine its calling privileges if one is defined; if no CNCS is defined, the NCOS of the locked set will be used.

Scheduled Access Restrictions (SAR)

The SAR feature overrides Electronic Lock.

Feature packaging

Electronic Lock Network Wide/Electronic Lock on Private Lines is packaged under Flexible Feature Codes (FFC) package 139.

Use of this feature requires the following additional packages:

- Controlled Class of Service (CCOS) package 81
- Network Class of Service (NCOS) package 32, and
- Integrated Services Digital Network (ISDN) package 145.

Feature implementation

Electronic Lock Network Wide

Use the following overlays to implement Electronic Lock Network Wide.

LD 15 – Modify Customer Data Block as follows:

Prompt	Response	Description
REQ	CHG	Change existing data block.
TYPE	CCS	Controlled Class of Service.
CUST	0-99	Customer number.
- CCRS	aaa	Controlled class of service (CCOS) Restricted Service.
- ECC1	aaa	Enhanced Controlled Class of Service level 1.
- ECC2	aaa	Enhanced Controlled Class of Service level 2.
- CNCS	0-99	Network Controlled Class Of Service for Electronic Lock.
- PELK	(NO), YES	Electronic Lock on Private Lines.
SCPL	(0)-8	Station Control Password length.

LD 10 – Set the Station Control Password and Controlled Class of Service Allowed for each Analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
SCPW	xxxxxxx	Station Control Password (1 to 8 digits, as defined in LD 15).
CLS	CCSA	Controlled Class of Service Allowed.

LD 11 – Set the Station Control Password and Controlled Class of Service Allowed for each Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCPW	xxxxxxxx	Station Control Password (1 to 8 digits, as defined in LD 15).
CLS	CCSA	Controlled Class of Service Allowed.

LD 57 – Configure the Flexible Feature Codes for Electronic Lock.

Prompt	Response	Description
REQ	NEW, CHG	Enter new/change data.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer Number.
FFCT	YES	Provide FFC confirmation tone.
CODE	ELKA	New/change Electronic Lock Activate FFC.
ELKA	xxxx	Enter the new or changed Electronic Lock Activate FFC
ELKA	<CR>	
CODE	ELKD	New/change Electronic Lock Deactivate FFC.
ELKD	xxxx	Enter the new or changed Electronic Lock Deactivate FFC
ELKD	<CR>	

LD 87 – In the ESN 2 overlay, define all NCOS to be used.

Prompt	Response	Description
REQ	NEW, CHG	Enter new/change data.
CUST	0	Customer Number.
FEAT	NCTL	Network Control.
...		
NRNG	0-99	NCOS range.
NCOS	0-99	Network Class of Service group number.
...		
– FRL	(0)-7	Facility Restriction level.

Electronic Lock on Private Lines

Use the following overlays to implement Electronic Lock Network on Private Lines.

LD 15 – Modify Customer Data Block as follows:

Prompt	Response	Description
REQ	CHG	Change existing data block.
TYPE	CCS	Controlled Class of Service.
CUST	0	Customer number.
- CCRS	aaa	Controlled class of service (CCOS) Restricted Service.
- ECC1	aaa	Enhanced Controlled Class of Service level 1.
- ECC2	aaa	Enhanced Controlled Class of Service level 2.
- CNCS	0-99	Network Controlled Class Of Service for Electronic Lock.
- PELK	YES	Electronic Lock on Private Lines.
SCPL	(0)-8	Station Control Password length.

LD 10 – Set the Station Control Password and Controlled Class of Service Allowed for each Analog (500/2500 type) telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
SCPW	xxxxxxx	Station Control Password (1 to 8 digits, as defined in LD 15).
CLS	CCSA	Controlled Class of Service Allowed.

LD 11 – Set the Station Control Password and Controlled Class of Service Allowed for each Meridian 1 proprietary telephone.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCPW	xxxxxxx	Station Control Password (1 to 8 digits, as defined in LD 15).
CLS	CCSA	Controlled Class of Service Allowed.

LD 57 – Configure the Flexible Feature Codes for Electronic Lock.

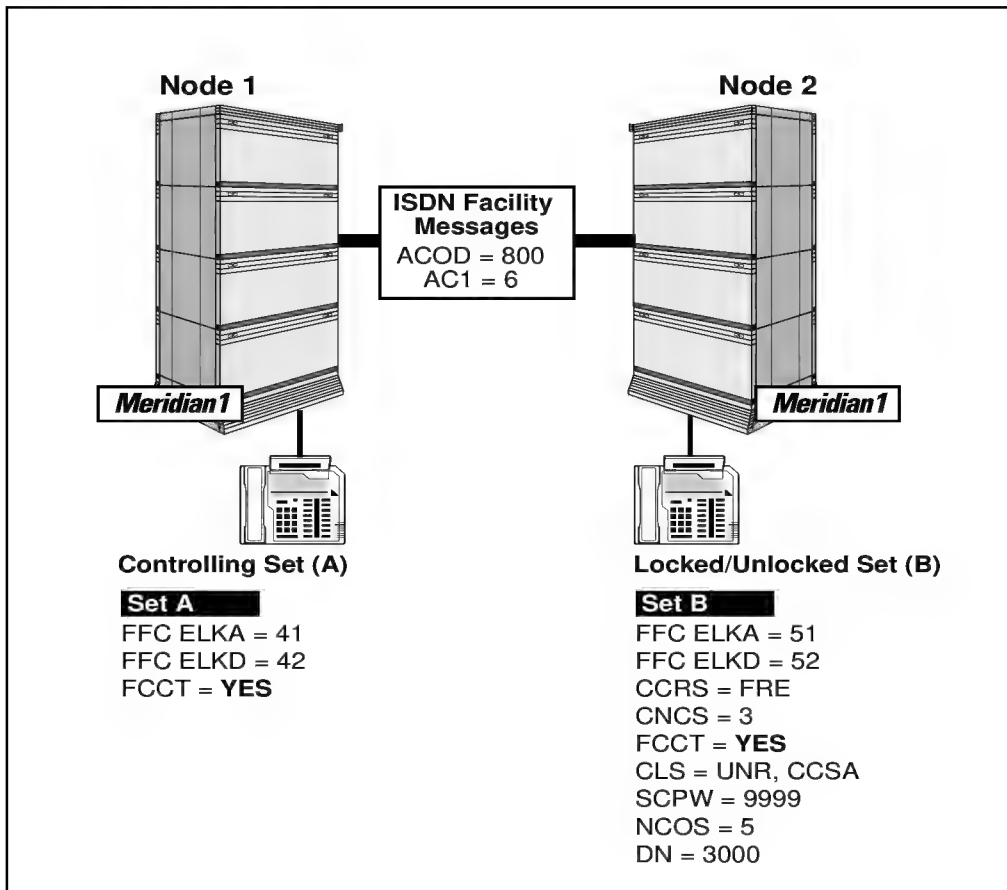
Prompt	Response	Description
REQ	NEW, CHG	Enter new/change data.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer Number.
FFCT	YES	Provide FFC confirmation tone.
CODE	ELKA	New/change Electronic Lock Activate FFC.
ELKA	xxxx	Enter the new or changed Electronic Lock Activate FFC
ELKA	<CR>	
CODE	ELKD	New/change Electronic Lock Deactivate FFC.
ELKD	xxxx	Enter the new or changed Electronic Lock Deactivate FFC
ELKD	<CR>	

Feature operation

Electronic Lock Network Wide

In this example, an MCDN ISDN network is set up connecting Node 1 to Node 2. Set A is the Controlling set. Set B is the set to be locked and unlocked by Set A. The digits that set A would dial to ring set B are to be in the format of a CDP or UDP dialing plan. This is standard dialing for ISDN features.

Figure 8
Network Electronic Lock



To lock set A (in Node 1) from set B (in Node 2), the user goes off-hook and dials the Electronic Lock Activate (ELKA) FFC defined in the Customer Data Block of Node 1, followed by the Station Password (SCPW) defined for set B, and the digits that set A would normally dial to ring set B (e.g., 41 + 9999 + 6-343-3000). If the FFCT option is configured as YES in LD 57 in the Customer Data Block of Node 1, confirmation tone is given to set A to confirm that the lock operation has been successful. Set B becomes locked if it was previously in an unlocked state.

If Set B was already locked, the above operation is ignored and Set B remains locked; however, a confirmation tone is provided to verify that the set is locked.

If the lock operation was unsuccessful, overflow tone is given.

To unlock set B (in Node 1) from set A (in Node 2), the user goes off-hook and dials the Electronic Lock Deactivate (ELKD) FFC defined in the Customer Data Block of Node 1, followed by the SCPW defined for set B and the digits that set A would normally dial to ring set B (e.g., 42 + 9999+6-343-3000). If the FFCT option is configured as YES in LD 57 in the Customer Data Block of Node 1, confirmation tone is given to set A to confirm that the unlock operation has been successful. Set B becomes unlocked if it was previously in a locked state.

If Set B was already unlocked, the above operation is ignored and Station B remains unlocked; however, a confirmation tone is provided to verify that the set is unlocked.

If the unlock operation was unsuccessful, overflow tone is given.

Electronic Lock on Private Lines

Feature operation of Electronic Lock for Private Lines is the same as for the basic Electronic Lock feature.

Controlled Network Class of Service

No specific operating procedures are required to use Controlled Network Class of Service.

Electronic Switched Network

The Electronic Switched Network (ESN) group of features is designed to support voice and circuit-switched voiceband data telecommunications needs for multiple-location customer applications.

Electronic Switched Network (ESN) applications range from a single network node (combined PBX and network switching system) to a widely dispersed network with up to 256 locations. For complete information on Electronic Switched Network (ESN), refer to the *Meridian 1 networking feature document* and *Electronic Switched Network description* (309-3001-100).

Basic Authorization Code

The Basic Authorization Code (BAUT) feature provides up to 5000 authorization codes of 1 to 14 digits that allow selected users to temporarily override system access restrictions by dialing a Special Service Prefix (SPRE) code, the digit 6, and the Basic Authorization Code (BAUT). The Basic Authorization Code (BAUT) is used for general applications and is described in *Basic and Network Authorization Code description* (553-2751-103).

Basic Alternate Route Selection

Basic Alternate Route Selection (BARS) enables calls placed to another location to be routed automatically over the least expensive route. After the Basic Alternate Route Selection (BARS) access code and the desired number have been dialed, Basic Alternate Route Selection (BARS) automatically tries alternate routes to the destination and completes the call over the least expensive route available at the time of dialing. BARS is described in detail in *Basic and Network Alternate Route Selection description* (553-2751-100).

Call Back Queuing

Call Back Queuing (CBQ) is an optional feature available to systems equipped with the Basic/Network Alternate Route Selection (BARS/NARS) or Coordinated Dialing Plan (CDP) features. If all facilities are busy when an individual places a BARS, NARS, or CDP call, Call Back Queuing (CBQ) enables the individual to invoke the Ring Again (RGA) feature and receive a callback from the system when a facility becomes available. Call Back Queuing (CBQ) is described in detail in *Network Queuing description* (553-2751-101).

Call Back Queuing to Conventional Mains

Call Back Queuing to Conventional Mains (CBQCM) enables call originators at a Conventional Main (any type of switch, including switches that are part of an Electronic TIE Network [ETN]) to access the CBQ feature at the serving ESN Node. When offered CBQ by the Node, users at the Conventional Main dial their extension number to accept the CBQ offer. When facilities become available at the Node, it initiates a CBQ callback to the call originator at the Conventional Main. Refer to *Network Queuing description* (553-2751-101) for a detailed description of Call Back Queuing to Conventional Mains (CBQCM).

Coordinated Call Back Queuing

Coordinated Call Back Queuing (CCBQ) enables telephones eligible for Ring Again (RGA) at the Main to be offered CBQ when network calls are blocked at the serving Node. When facilities become available at the Node, the call originator at the Main is alerted by a callback (identical to an RGA callback) from the Node. Coordinated Call Back Queuing (CCBQ) requires that the Main and associated Node be equipped with Network Signaling. Refer to *Network Queuing description* (553-2751-101) for a detailed description of Coordinated Call Back Queuing (CCBQ).

Coordinated Call Back Queuing Against Main

Coordinated Call Back Queuing Against Main (CCBQAM) is an enhancement to the CCBQ feature that allows a station at the Node to be offered CBQ if a call is blocked at the Main. When facilities become available at the Main, the call originator at the Node is alerted by a callback from the Main. The Network Signaling feature must be equipped at both the Main and the Node for Coordinated Call Back Queuing Against Main (CCBQAM) implementation.

Coordinated Dialing Plan

Coordinated Dialing Plan (CDP) enables a customer with a number of switches to coordinate the dialing plan of stations at these switches. The Coordinated Dialing Plan (CDP) feature allows the telephone user to call any other telephone within a CDP group by dialing a three- to seven-digit number assigned to the station. CDP can be arranged to provide a centralized public exchange network capability that channels access to the public network through a single Meridian 1 Option 11C Compact switch within the CDP group.

CDP can route Direct Inward Dialed (DID) calls over Central Office (CO) and Wide Area Telephone Service (WATS) trunks using a Distant Steering Code (DSC). The feature is controlled by the Customer Data Block (LD 15). This enhancement applies to CO, WATS, Data Terminal Interface (DTI), and Integrated Services Digital Network (ISDN) trunks.

CDP is described in detail in *Coordinated Dialing Plan description* (553-2751-102).

Flexible ESN “0” Routing

Flexible ESN “0” Routing allows the routing of calls on different routes based on a few predefined non-leftwise unique dialing sequences. “Leftwise unique” means that each entry cannot match the left most portion of any other entry in the table. For example, if “123” is an entry in the table, then no other entry may begin with “123.”

The ESN translation table will allow any or all of the following non-leftwise unique numbers (along with their associated route lists) to be entered into the ESN translation table:

- 0
- 00
- 01, and
- 011.

Flexible ESN “0” Routing is part of the existing BARS (57) and Network Alternate Route Selection (NARS) (58) packages and has no interaction with other features besides these. Since NARS has two translation tables, two Flexible ESN “0” Routing data blocks will be included in NARS. This means that a call could be configured to route in two different ways.

This feature is applicable to all route types and network types supported by ESN. For information on the appropriate prompts and responses in Service Change (LD 90), refer to the *input/output guide*.

Network Alternate Route Selection

Network Alternate Route Selection (NARS) is an integral part of Northern Telecom’s ESN. Network Alternate Route Selection (NARS) is designed for large business customers with numerous distributed operating locations, enabling the customer to tie together the switches at the various operating locations to create a private telecommunications network. NARS is described in detail in *Electronic Switched Network description* (309-3001-100) and *Basic and Network Alternate Route Selection description* (553-2751-100).

BARS/NARS Incoming Trunk Group Exclusion

Incoming Trunk Group Exclusion (ITGE) is an enhancement to the BARS/NARS feature. Standard call blocking is applied on outgoing calls to a specific Numbering Plan Area (NPA), NXX, Special Number (SPN), or Location Code (LOC) at the ESN node if the call is from a specific incoming trunk group.

This prevents loopback routing through the caller's home switch (home NPA, NXX). Calls that should have been made off-net from the caller's home switch are blocked outgoing at the Node. Main users are prevented from using the ESN to make calls to certain NPA, NXX, SPN, or Location Codes (LOC) that they are restricted from making at the home switch.

Incoming Trunk Group Exclusion (ITGE) provides full ten-digit restriction for NPA and SPN codes, seven-digit restriction for NXX codes, and three-digit restriction for Location Code (LOC) codes.

Detailed information on this enhancement is provided in *Electronic Switched Network description* (309-3001-100) and *Basic and Network Alternate Route Selection description* (553-2751-100).

NARS Multiple DID Office Code Screening

Multiple DID Office Code Screening is an enhancement to the On-Net to Off-Net Overflow capability of the NARS feature. This enhancement permits network calls that undergo on-net to off-net conversion to terminate at any Directory Number (DN) that has been defined in the LOC data block of memory. This data block allows the definition of multiple office codes (NXX) and/or multiple Directory Number (DN) ranges of the following types:

- single office code/single Directory Number (DN) range
- single office code/multiple DN ranges
- multiple office codes/single DN range, and
- multiple office codes/multiple DN ranges.

Operating parameters

NARS Multiple DID Office Code Screening operates within the following parameters:

- Only one Numbering Plan Area (NPA) per LOC is allowed.
- Ranges defined within a LOC must be unique. Overlapping or duplication of ranges is not permitted.

- The number of digits must be the same in each Direct Inward Dialing (DID) range.
- A maximum of 20 Direct Inward Dialing (DID) ranges may be defined per location code.

BARS/NARS Off-Net Number Recognition

Off-Net Number Recognition is an enhancement to the Basic/Network Alternate Route Selection (BARS/NARS) feature for ESN, and for the BARS feature for standalone applications.

Off-Net numbers that terminate at an ESN Node or Main, or at a Conventional Main, can be routed through the private network by means of TIE trunks. BARS/NARS Off-Net Number Recognition prevents unnecessary TO and FROM terminations through CO trunks, at the terminating end, when a caller dials a DID or Direct Distance Dialing (DDD) call to a location in the private network. Calls are handled on the basis of customer-defined parameters stored in Network Translation Tables and Supplementary Digit Recognition/Restriction Blocks.

Detailed information on this enhancement is provided in *Electronic Switched Network description* (309-3001-100) and *Basic and Network Alternate Route Selection description* (553-2751-100).

BARS/NARS 11-Digit Translation

This feature expands the ESN BARS/NARS translation capabilities from a maximum of four digits to a maximum of 11 digits for route selection.

Possible conflicts between translatable codes (NPA, NXX, LOC, SPN) are eliminated by 11-Digit Translation. By allowing translation of more than four leading digits, unique nonconflicting routing to a destination is possible. More than one route list can exist for each specific code of a type. For example, the NXX 727 could only translate into one route list previously.

With 11-Digit Translation, up to 128 route lists for BARS and up to 256 for NARS may be defined, extending translation deeper into the dialed code. The codes must be leftwise unique. If an NXX of 7271 is defined, any other 727 entries must be extended to four digits. [Table 21](#) shows the number of digits that can be translated.

Table 21
Digit translation

Translation Type	Number of digits that can be translated
LOC	3-7
HLOC	3-7
NPA	3-11
HNPA	3-4
NXX	3-8
SPN	1-11

BARS/NARS 11-Digit Translation is discussed in greater detail in *Electronic Switched Network description* (309-3001-100) and *Basic and Network Alternate Route Selection description* (553-2751-100).

Network Authorization Code

The Network Authorization Code (NAUT) feature provides up to 50,000 authorization codes of 1 to 14 digits. Network Authorization Code (NAUT) incorporates all the features of the BAUT feature, adds a conditionally last option for entering an Authorization Code after dialing an ESN call, and enables the attendant to enter an Authorization Code. Network Authorization Code (NAUT) is described in detail in *Basic and Network Authorization Code description* (553-2751-103).

Network Call Transfer

Network Call Transfer (NXFER) enhances the operation of Call Transfer (XFER) between two switches when a call is transferred back to the originating switch. The regular Call Transfer feature requires two TIE trunks to complete the call. With Network Call Transfer (NXFER), if the call is transferred back to the originating switch as the same TIE trunk group, the originating switch completes the transfer within itself and the TIE trunks are dropped. For a detailed description of Network Call Transfer (NXFER) refer to *Basic and Network Alternate Route Selection description (553-2751-100)*. The benefits derived from the NXFER feature include

- minimal use of access TIE lines
- improved transmission performance, since TIE lines are not used for the completed connection, and
- operation identical to that of Call Transfer (XFER).

Operating parameters

NXFER operates within the following parameters:

- Meridian 1 proprietary telephones must be equipped with a Call Transfer key.
- Network Signaling (NSIG) must be provided on both switches.

Network Signaling

Network Signaling (NSIG) provides a proprietary signaling protocol for transmission of network call information between switches that operate in a private network environment with Basic/Network Alternate Route Selection (BARS/NARS) or CDP. Network Signaling (NSIG) can be equipped at the Node and Main switches. For a detailed description of Network Signaling, refer to *Electronic Switched Network description (309-3001-100)* and *Basic and Network Alternate Route Selection description (553-2751-100)*.

NSIG supports transmission or reception of information between the following switch types:

- Meridian 1 Option 11C Compact Node to Meridian 1 Option 11C Compact Node

- Meridian 1 Option 11C Compact Node to Meridian 1 Option 11C Compact Main
- Meridian 1 Option 11C Compact Node to an Electronic TIE Network (ETN) switch
- Meridian 1 Option 11C Compact Main to Meridian 1 Option 11C Compact Node, and
- ETN switch to Meridian 1 Option 11C Compact Node.

Information transmitted and received from one switch to another can include the following:

- Call type
- Called number
- Network Class of Service (NCOS)
- Traveling Class of Service (TCOS)
- Traveling Class Mark (TCM), and
- Queue identification number (for CCBQ).

Operating parameters

NSIG operates within the following parameters:

- A Main can connect to only one Node, and both switches must be equipped with the NSIG feature.
- TIE trunks between Nodes and Mains must be arranged for Dual-tone Multifrequency (DTMF) sending/receiving and wink-start operation.
- Meridian 1 Option 11C Compact Node compatibility with Electronic TIE Network (ETN) switches is limited to seven-digit on-network and ten-digit off-network calls.

Network Traffic

The Network Traffic (NTRF) feature enables traffic data related to BARS, NARS, and CDP to be retrieved and output at a traffic TTY. The network traffic measurements (in addition to the switch traffic measurements) are described in detail in *Traffic measurement formats and output* (553-2001-450).

Network Speed Call

Network Speed Call (NSC) enables a user who is normally restricted from making network calls to make such a call through BARS/NARS, provided that the destination is a number defined in a System Speed Call (SSC) list. When such a call is placed, the CLS and TGAR restrictions are lifted and a Network Class of Service (NCOS), associated with the SSC list, is assigned for the duration of the call. NSC is described in detail in *Electronic Switched Network description* (309-3001-100) and *Basic and Network Alternate Route Selection description* (553-2751-100).

Off Hook Queuing

Off Hook Queuing (OHQ) is an optional feature available at any switch equipped with BARS, NARS, or CDP. If all facilities are busy when an individual places a BARS, NARS, or CDP call, the OHQ feature enables the individual to wait off hook for a programmed length of time until a facility becomes available. OHQ is described in *Network Queuing description* (553-2751-101).

Operating parameters

Refer to the appropriate Northern Telecom Publication for each ESN feature.

Feature interactions

Refer to the appropriate Northern Telecom Publication for each ESN feature.

Feature packaging

Basic Authorization Code (BAUT) package 25 requires:

- Charge Account/Authorization Code (CAB) package 24.

Basic Alternate Route Selection (BARS) package 57 requires:

- Basic Routing (BRTE) package 14, and
- Network Class of Service (NCOS) package 32.

Coordinated Dialing Plan (CDP) package 59 requires:

- Basic Routing (BRTE) package 14

- Network Class of Service (NCOS) package 32, and
- Flexible Call Back Queuing (FCBQ) package 61.

Network Alternate Route Selection (NARS) package 58 requires:

- Basic Routing (BRTE) package 14, and
- Network Class of Service (NCOS) package 32.

Network Authorization Code (NAUT) package 63 requires:

- Charge Account/Authorization Code (CAB) package 24
- Basic Authorization Code (BAUT) package 25

and at least one of the following:

- Basic Alternate Route Selection (BARS) package 57
- Network Alternate Route Selection (NARS) package 58, or
- Coordinated Dialing Plan (CDP) package 59.

Network Call Transfer (NXFR) package 67 requires:

- Network Class of Service (NCOS) package 32, and
- Network Signaling (NSIG) package 37.

Network Signaling (NSIG) package 37 requires:

- Network Class of Service (NCOS) package 32.

Network Traffic (NTRF) package 29 requires at least one of the following:

- Basic Alternate Route Selection (BARS) package 57
- Network Alternate Route Selection (NARS) package 58
- Coordinated Dialing Plan (CDP) package 59
- Priority Queuing (PQUE) package 60
- Flexible Call Back Queuing (FCBQ) package 61, or
- Off Hook Queuing (OHQ) package 62.

Network Speed Call (NSC) package 39 requires:

- System Speed Call package (SSC) package 34

and at least one of the following:

- Basic Alternate Route Selection (BARS) package 57, or
- Network Alternate Route Selection (NARS) package 58.

Off Hook Queuing (OHQ) package 62 requires

- Basic Queuing (BQUE) package 28

and at least one of the following:

- Basic Alternate Route Selection (BARS) package 57, or
- Network Alternate Route Selection (NARS) package 58.

Feature implementation

Refer to the appropriate Northern Telecom Publication for each ESN feature.

Feature operation

Refer to the appropriate Northern Telecom Publication for each ESN feature.

End-to-End Signaling

The End-to-End Signaling (EES) feature enables a station to send Digitone end-to-end signaling through an established outgoing connection. Improved EES provides faster, more reliable service, and also provides an optional feedback tone to the originator, as specified in LD 56. In addition, improved EES eliminates the use of a conference loop for sending EES tones to the connected parties.

To use improved EES, the following prompt or prompts need to be set in LD 15: EEST = NO (no feedback tone, default value) or EEST = YES, DTMF = NO (single optional feedback tone, as specified in LD 56).

Customers requiring DTMF feedback tone should continue to use the original EES support. For this support, set EEST = YES and DTMF = YES in LD 15. Customers who do not need DTMF tones, however, should use improved EES.

An outgoing connection from a digital telephone is considered established after the end of dialing time is elapsed. Alternatively, an outgoing call can be established after the end of dialing time is elapsed, or can be established immediately by pressing an octothorpe (#) after the last digit is dialed.

Attendant End-to-End Signaling

The attendant can send DTMF tones to either the source or destination party using the AEES key on the Attendant Console. If there are two receiving parties on the current active loop key, the attendant can press the EXCL SRC or EXCL DEST key to exclude one of the connected parties before pressing the AEES key (defined in LD 12). Only one party on the active loop key (source or destination) can receive the DTMF signal. After pressing the AEES key, the attendant can press digits to send DTMF tones out to the source or destination party. To terminate the EES operation, the attendant should press the AEES key again. The states for the EXCL SRC, EXCL DEST, SRC loop, and DEST loop keys remain the same as before the EES key is pressed.

Improved EES makes no changes to the attendant operation. Like any other telephone, the Attendant Console can use improved EES or enhanced EES.

Operating parameters

A telephone can send and receive DTMF codes, thereby extending the EES capability to internal analog (500/2500 type) telephone calls and incoming trunk calls.

A call must be established before using the EES feature. An outgoing call is considered established 14 seconds (DP trunk) or four seconds (2500-type telephone or Digitone trunk) after the last digit has been outpulsed. The length of this delay can be changed through service change. EES can be performed after end of dial time out, or when an answer supervision has been received from the far end, by pressing the octothorpe key (#) after the last digit.

EES is allowed only on CO, FX, WATS, TIE, CCSA, DID, and CAMA trunk types.

EES is not available on analog (500/2500 type) telephones.

With improved EES, the use of a conference loop is not necessary.

The AEES key, like other flexible programmable keys, cannot be configured on key 0 or key 1 of the Attendant Console.

There is a 5.4 dB difference between when EEST is set to YES (provide end-to-end signaling feedback tone) and when it is set to NO (provide no tone). An attenuation of 5.4 dB using the conference pads is applied to the EES tone if user feedback is to be given.

EES Feature interactions

Agent/All Observe

In the Agent/All Observe mode, a supervisor, agent, and customer are all in a conference call. This feature uses Conference EES.

Attendant End-to-End Signaling (AEES)

An Attendant Console in AEES mode can communicate with the source or destination party through in-band DTMF tones on an established speech path. The Attendant Console is treated like any other telephone.

Autodial Tandem Transfer (ATX)

EES is used to send the Automatic Dialing (ADL) digits to the Public Exchange/Central Office (CO). With ATX, the 911 agent can use the ADL key or manually dial the digits, or use a combination of both methods, to dial the third party's number. The ADL key can be pre-programmed with a prefix and the remaining digits can be dialed manually to distinguish between different numbers. When you combine manual dialing with the ADL key, if EEST = YES and DTMF = YES in LD 15, you hear the DTMF feedback tone as a result of manual dialing and a single feedback tone as a result of pressing the ADL key. To get uniform feedback tone when using the ADL key along with manual dialing, set the DTMF prompt to NO in LD 15.

Call Modification

If EES is in progress, Call Modification is blocked. If Call Modification were not blocked, it might not be performed correctly during EES.

Call Detail Recording (CDR) Record

An option in the Customer Data Block (LD 15) defines whether EES digits should be captured in the CDR record or not. This can prevent EES digits that contain sensitive information, like account numbers and passwords, from appearing in the CDR record.

Conference End-to-End Signaling

Improved EES does not apply when the parties are in a conference call. Conference EES works as previously: a Tone and Digit Switch (TDS) loop is attached to the conference loop when a digit is pressed by one of the conferenced parties, and TDS is released when the digit is released. The setting of the EEST prompt determines whether the DTMF feedback tone is provided or not. The DTMF prompt is ignored for Conference EES.

EuroISDN Continuation

End-to-End Signaling is supported on all outgoing EuroISDN routes as soon as the CALL PROCEEDING message with a Progress Indicator is received.

EuroISDN Master Mode

End-to-End Signaling, which allows in-band dialing to be performed on ISDN trunks before and after the call has been answered, is supported on the EuroISDN Master Mode connectivity.

In the case of tandem with ISDN trunks, the necessary information to allow the End-to-End Signaling feature is tandemed to the ISDN trunk. At this point, it becomes the responsibility of the end user switch to provide the End-to-End Signaling service.

Multi-Party Operations – Three-Party Service

The party receiving the patience tone or the Misoperation ringback is not able to use EES.

Silent Observe

Improved EES supports the Silent Observe feature of Automatic Call Distribution (ACD), like any other feature that involves EES between two telephones. A supervisor can use this ACD feature to silently observe an agent.

AEES Feature interactions

Attendant Administration

While in the Attendant Administration mode, pressing the AEES key is ignored.

**Attendant Barge-In
Busy Verify**

While in the Barge-In/Busy Verify mode, the console cannot enter AEES mode.

Attendant Features

Activating Automatic Wake Up, Call Park, Charge Account, Calling Party Number, Hold, Release, or another loop key will terminate AEES operation.

Conference

While in AEES mode, the receiving party cannot initiate a conference call.

Digit Key (Meridian 1 Hospitality Voice Services)

Attendant End-to-End Signaling and Digit Key are mutually exclusive. Being in AEES mode overrides the use of the Digit Key.

End-to-End Signaling (station level)

The Attendant Console and the telephone receiving AEES cannot both activate EES simultaneously.

Interposition call

When an attendant is actively connected to another console using Interposition Attendant Call, AEES is blocked. During an Interposition Call Transfer, however, the console that is actively connected to a telephone can perform AEES, provided the party connected to the other Attendant Console is excluded.

**Night Service
Position Busy
Centralized Attendant Service**

These features work together with AEES. However, do not press one of these feature keys while using AEES, or the DTMF signals may be blocked.

Supervisory console

The supervisor can operate AEES if there is a call on the active loop key. An attendant in AEES mode can be monitored by the supervisor.

Trunk connection

On incoming ground start CO or Direct Inward Dialing (DID) trunks without Answer Supervision, you must press the Release (RLS) key on the console to exit AEES mode and drop the connection.

Feature packaging

End-to-End Signaling and Attendant End-to-End Signaling are both part of package 10 and have no feature package dependencies.

Feature implementation

LD 15 – Enable End-to-End Signaling tone feedback.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR	Customer Data Block. Gate opener.
CUST	0	Customer number.
- - EEST	(NO), YES	NO = No EES feedback tone is given to the telephone. YES = EES feedback tone is given; the type is defined by the DTMF prompt.
- DTMF	(NO), YES	NO = Use the improved EES for single feedback tone. YES = Use the current EES for DTMF feedback tone. For Option 11, DTMF should be set to NO.
...		
TYPE	CDR	Gate opener.
- ECDR	(NO), YES	NO = Do not capture EES digits in the CDR record. YES = Capture EES digits in the CDR record.

LD 12 – Add End-to-End Signaling key to Attendant Console.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	2250	Console type.
TN	c u	Terminal Number.
KEY	xx EES	Add EES key (xx = key number) (cannot be key 0 or 1).

LD 56 – Specify the cadence for the EES feedback tone.

Prompt	Response	Description
REQ	CHG, NEW	Change, or add.
TYPE	FTC	Flexible Tones and Cadences.
TABL	x	FTC table number.
HCCT	YES	Hardware Controlled Cadence.
EEST		No response expected; this is an informational prompt.
- TDSH	i bb cc tt	TDS external, burst, cadence, and tone.
- XTON	0-255	NT8D17 TDS tone code.
- XCAD	0-255	NT8D17 cadence code for FCAD.

Feature operation

No specific operating procedures are required to use this feature.

Equal Access Compliance

A telephone user can select any interexchange carrier for any given call by using a Carrier Access Code (CAC). A CAC comprises an Equal Access identifier and a Carrier Identification Code (CIC). Northern Telecom refers to a call preceded by a CAC as an Equal Access call.

Federal Communications Commission (FCC) requirements

FCC Part 68 regulations require that any equipment or software manufactured or imported on or after April 17, 1992, and installed by any aggregator, must allow all users to use Equal Access codes to selectively access the long distance carrier of their choice. As defined in FCC docket 90-313, an *aggregator* is any business that, in the ordinary course of operations, makes telephones available to the public, or to transient users of the premises, for interstate telephone calls using a provider of operator services. Aggregators include hotels or motels, hospitals, universities, airports, gas stations, or pay telephone owners.

Aggregators, although they must allow callers access to any long distance caller, are permitted to block calls selectively. Selective equal access lets aggregators choose to block direct-dialed calls that result in charges to the originating telephone. Aggregators cannot block operator-assisted calls.

Northern Telecom complies with the FCC Equal Access rules in dockets 90-313, 91-35, and their appendixes.

Carrier Access Code

Prior to the first quarter of 1995, the CAC is defined as 10XXX, where '10' is the Equal Access identifier and XXX is the CIC. During the first quarter of 1995, Carrier Identification Code Expansion will occur. The CAC will become 101XXXX (an Equal Access identifier of '101' followed by a four-digit CIC). For a period of approximately 18 months following introduction of the new format, both old and new formats will be accepted. During 1996, support for the 10XXX format will terminate. Meridian 1 Option 11C Compact software permits both formats.

Equal Access dialing plans

The software supports Equal Access dialing plans as follows:

- It allows operator-assisted North American and international dialing.
 - CAC + 0
 - CAC + 0 + (NPA) + NXX + XXXX, and
 - CAC + 01 + CC + NN.
- It allows or denies direct North American and international dialing.
 - CAC + 1 + (NPA) + NXX + XXXX, and
 - CAC + 011 + CC + NN.

Legend:

CAC = Carrier Access Code (10XXX or 101XXXX)

NPA = Numbering Plan Area (area code in the North American Numbering Plan)

NXX = end-office code

(N = any digit except 0 or 1; X = any digit (0–9))

XXXX = any four digits

CC = Country Code

NN = National Number

Route types

Equal Access Compliance supports COT, FEX, WAT, DID, and TIE routes.

A TIE route is supported only if standard signaling is specified in LD 16 (SIGO = STD). To enable Equal Access call restrictions to function properly, Digital Trunk Interface (DTI) TIE routes must be voice only. (DTI TIE routes configured as voice/data are not supported for connection to a Public Exchange/Central Office.) TIE routes must be either outgoing or incoming/outgoing (ICOG = IAO or OGT).

Call restriction

Call restriction relies on fixed pattern recognition to determine which calls can be denied. Switch administrators can restrict two kinds of direct-dialed Equal Access calls: North American calls with the 101XXXX+1+NPA+NXX+XXXX format and international calls with the 101XXXX+011+CC+NN format. If either restriction option is chosen, the administration must verify that the Original Carrier Access Code (OCAC) flag is correctly set.

Call restrictions do not affect attendant calls.

Calls blocked by Equal Access are not directed to alternate routes.

Operating parameters

There are no feature requirements.

Feature Interactions

There are no interactions with other features.

Feature packaging

Equal Access compliance is included in base software. Network Class of Service (NCOS) package 32 is required to configure Equal Access.

Feature implementation

Carrier Identification Code Expansion supports and extends the General Carrier Restriction method of blocking calls. Given the expansion in the number of Carrier Identification Codes (CIC), it is no longer practical to support Selective Carrier Restriction functionality. Carrier Identification Code Expansion continues to provide the selective blocking function required by the FCC; Northern Telecom and the FCC interpret the term “selective” differently. For these reasons, prompts pertaining to General Carrier Restriction and Selective Carrier Restriction in LD 16 no longer appear.

Customers who chose the ITOL prompt in LD 16 to block international calls should also have international calls blocked at the Public Exchange/Central Office to reduce the likelihood of unauthorized international calls. The carrier or Central Office operator intercept interdigit timer typically expires in four to six seconds. The Meridian 1 Option 11C Compact end of dial timers, End-of Dial Timer for non-Digitone Trunks (EOD) and End-of Dial-Timer for Digitone Trunks (ODT), are defaulted to 14 and four seconds respectively. ODT can be raised to seven seconds to prevent Digitone stations from bypassing Equal Access restrictions of Digital Distance Dialing international calls.

The interdigit timeout for non-leftwise-unique prefixes 0 and 01 is fixed for a given carrier network. Therefore, Equal Access connects the call to the Central Office trunk if the user dials Carrier Access Code + 0 and allows the end-of-dialing timer to expire. Equal Access blocks the same call if the caller presses the octothorpe (#) key and cancels the EOD or ODT. The caller cannot bypass the EQAR prompt in LD 16 provided that the EOD and ODT are set long enough to exceed the inter-digit timeout on the carrier networks.

Before and during the permissive period, when both the three-character and the four-character CIC are allowed, current Equal Access users must set the Original Carrier Access Code (OCAC) flag to YES in LD 17. The default is NO, indicating that only the new CAC format is acceptable. A YES setting for OCAC in LD 17 lets customers use both the original and the new CAC formats. All customers who currently have Equal Access configured should set OCAC to YES in LD 17 immediately after SYSLOAD when installing new software that includes the new expansion feature. When the original CAC is no longer acceptable (sometime in 1996), OCAC should be set to NO.

New Equal Access customers do not need to change the OCAC flag until the feature is configured.

Feature operation

No specific operating procedures are required to use this feature.

BARS/NARS routing

Equal Access determines restrictions without looking at a call's originating type (ESN or Direct Access). Routing has no effect on Equal Access call restriction: calls receive the same restriction treatment whether they originate from a trunk access code or from BARS/NARS. Equal Access is not a BARS/NARS feature and does not require BARS/NARS dialing.

To configure BARS/NARS to route Equal Access calls, simply use a special number (SPN) of 10 (the Equal Access code) to identify the calls as Equal Access calls and route them accordingly.

Example

Configure BARS/NARS for Equal Access call routing, assuming that calls originate from Customer 0 and go out over Route 10. To route Equal Access calls originating from Customer 0 over Route 10, using route list index 100 and access code 1 (AC1), configure the database as follows.

The configuration in this example routes all Equal Access calls placed through BARS/NARS with access code 1 (AC1) over route 10. Note that the SPN is "10," to support the original CIC format, rather than "101," as required under the new CIC format. Set the SPN to "101" if support for the original CIC format is unnecessary or if another dialing sequence beginning with "10" is introduced into North American Numbering Plan.

LD 17 – Set OCAC as appropriate.

Prompt	Response	Description
REQ	CHG	Change existing route data.
TYPE	CFN PARM	Configuration Record. Gate opener.
PARM	YES	Change system parameters.
- NDRG	(NO), YES	(Disable) enable new distinctive ringing.
- OCAC	(NO), YES	Support original CAC format (must be set to YES during interim period, NO following interim period).

LD 86 – Set the route list index to Route 10.

Prompt	Response	Description
REQ	NEW, CHG	Create, or change database.
CUST	0	Customer number.
FEAT	RLB	Route List Block.
RLI	100	Use route list index 100 to route Equal Access calls.
ENTR	0	Route entry number for this route list index (0 if this is the first entry).
ROUT	10	Send Equal Access calls over Route 10.

LD 90 – Establish an SPN for the Equal Access code.

Prompt	Response	Description
REQ	NEW	New ESN translation table entry.
CUST	0	Customer number.
FEAT	NET	Network translation table entry.
TRAN	AC1	Access code 1 is used to originate the Equal Access calls.

TYPE	SPN	SPN translation entry.
SPN	10	SPN (Equal Access code).
RLI	100	Use route list index 100 to route Equal Access calls.

LD 87 – Configure a NCOS for Equal Access.

Prompt	Response	Description
REQ	CHG	Change NCTL data.
CUST	0	Customer number.
FEAT	NCTL	Change NCTL block.
NCOS	4	Network Class of Service group number.
EQA	YES	This NCOS permits Equal Access call restriction capabilities.

LD 10 or LD 11 – Assign a NCOS to a set.

Prompt	Response	Description
REQ	CHG	Change existing set data.
TYPE	aaaa	Type of set.
TN	c u	Terminal Number.
NCOS	4	Network Class of Service group number.

LD 16 – Enable Equal Access for this route.

Prompt	Response	Description
REQ	CHG	Change existing route data.
TYPE	RDB	Change Route Data Block.
CUST	0	Specify customer number.

ROUT	10	
EQAR	(NO), YES	Enter YES to enable Equal Access and selective blocking for this route. A YES response triggers the next two prompts.
- NTOL	(DENY), ALLOW	Specify that Equal Access North American calls billed to originating telephone are to be denied.
- ITOL	(DENY), ALLOW	Specify that Equal Access international calls billed to originating telephone are to be denied.

The configuration in this example routes Equal Access calls placed via NARS/BARS using AC1 over route 10 and blocks all Equal Access toll calls for NCOS = 4. Note that Equal Access toll calls placed via direct trunk access to route 10 also will be blocked.

Feature operation

No specific operating procedures are required to use this feature.

Error Handling on ISDN Signaling Link Analog E&M TIE Trunks

The Integrated Services Digital Network Signaling Link (ISL) Analog E&M TIE Trunks feature identifies error conditions that are generated by external equipment and ensures that faulty trunks cannot be used. When the error condition is removed the trunk is put back into service.

When an error condition is identified while the trunk is idle, the trunk is put into a maintenance busy mode and a trunk error message is printed. If an error occurs while a call is being sent, an error message is printed and the call proceeds; the trunk unit is put into maintenance busy mode after the call is disconnected. Outgoing calls cannot be made on units that are in maintenance busy and incoming calls are rejected.

Once the external equipment removes the error condition, a message is printed and a restart message is sent on the D-channel to indicate that the unit is usable.

Operating parameters

Error Handling on ISL Analog E&M TIE Trunks only functions on ISL Analog E&M TIE Trunks and not on other types of ISL TIE trunks. This function only operates when the D-channel is established.

E&M types applicable to this feature include two-wire and four-wire with TY1 and TY2 signaling types. The feature applies to immediate start, delay dial start and wink start arrangement types.

This feature is designed to operate only when ISL E&M TIE trunks are used in conjunction with transmission equipment.

To implement Error Handling on ISL Analog E&M TIE trunks the FALT prompt response in the Route Data Block (LD 16) must be YES. If FALT=NO, then no error handling will occur on the route.

Feature interactions

There are no interactions with other features.

Feature packaging

Error Handling on ISL Analog E&M Tie Trunks is ISDN Signaling Link (ISL)is package 147 and is included in ISDN Signaling (ISDN) package 145.

Feature implementation

LD 16 – Configure ISL on Analog Trunks.

Prompt	Response	Description
REQ	NEW, CHG	Add, or change.
TYPE	RDB	Route data block.
...		
DTRK	NO	Digital trunk route.
ISDN	YES	ISDN Primary Rate Interface option.
MODE	ISLD	Mode of D-channel controlling the route.
...		
FALT	YES	Enables the error handling and recognition of E lead error for ISL E&M Tie Trunks. If FALT= NO, then no error handling with occur.

Feature operation

Overlay Changes

The enabling/disabling commands in the maintenance overlay is changed so that if the trunk unit is in error state the following occurs:

- The trunk unit cannot be enabled until the external error condition is removed. The message TRK533 is printed to warn the user that the enable command is cancelled because an error exists on the ISL E&M TIE Trunks. When this occurs, the trunk unit will remain in maintenance busy mode.

These overlay changes ensure that error states on both sides of the link are not affected by enabling/disabling the unit.

Error Applied to Unit

- An error condition can be generated by the external equipment when a unit is idle, during call setup or when a call is established.

Error applied, Unit Idle

- If an error is detected the unit is put in maintenance busy mode and the error message TRK531 is printed.

Error applied, Call Setup

- If an error is detected during call setup the error message TRK531 is printed.
- After the call is disconnected, the trunk is put into maintenance busy mode.

Error applied, Call Established

When an error is applied while a call is established, it is detected after the call is disconnected. If the release message is not received within the time defined by the supervision timer then the E lead remains grounded and causes an error condition. The following occurs:

- The unit is put into maintenance busy mode and the error message TRK531 is printed.

Error State

When the unit is in an error state then it is not available for incoming or outgoing calls. The error state is maintained until it is cleared by external equipment.

Outgoing Calls

Normal call processing selects the next available channel for outgoing calls.

Incoming Calls

Far end attempts to make calls will send a SETUP message. If the unit is in an error state, a Release Complete message is sent. The far end trunk will be put into a LOCKOUT state.

Restart Message

During an error state, a RESTART message is received from the far end. This message is ignored so that the error state of the unit is preserved.

Error Removed

If the error condition is removed by external equipment, the trunk is marked IDLE, the error message TRK532 is printed and a RESTART One Channel message is sent on the D-channel. The far end trunk unit changes from LOCKOUT to IDLE state.

No specific operating procedures are required to use this feature, however the following system messages will occur throughout feature operation.

Message Number	Events
TRK531 tn	An error has been detected on ISL E&M TIE, unit will be put to Maintenance Busy.
TRK532 tn	Error Condition on ISL E&M TIE removed.
TRK533 tn	Enable command is cancelled on this unit because an error exists on the ISL E&M TIE trunks.

FCC Compliance for DID Answer Supervision

This feature is designed to meet the requirements in the United States, Section 68.314(h) of Part 68, and the DOC requirements in Canada, Section 3.22 of CSO3 Part 1, for answer supervision of redirected telephone calls to ensure proper billing.

This feature is designed specifically for telephone calls coming in through Direct Inward Dialing (DID) trunks. Answer supervision for all other types of telephone calls is not affected. This feature works in conjunction with the following types of calls:

- Direct Inward Dialing (DID) calls terminating at the Meridian 1 Option 11C Compact and forwarded to a Recorded Announcement (RAN).
- Direct Inward Dialing (DID) calls forwarded by the system through the public switched network (PSN) to another number in the Public Exchange/Central Office (CO), or to another Meridian 1 Option 11C Compact.

On North American COT, FEX, and WATS trunks, Central Offices do not always return answer supervision. When no answer supervision is returned, the Meridian 1 Option 11C Compact software uses the end-of-dial timer for non-Digitone trunks (EOD timer), or the end-of-dial timer for Digitone trunks (ODT timer) to verify call connection. For Federal Communications Commission (FCC) compliance, the EOD and ODT timers will still be used for incoming DID calls, except that EOD is capped at 20 seconds even if configured for more.

This feature handles incoming DID calls over Data Terminal Interface (DTI), Integrated Services Digital Network (ISDN), and analog trunks. Outgoing calls over Central Office (CO) and TIE trunks are also handled. System components involved include trunks, the Meridian 1 Option 11C Compact, and the CO.

The following explains how the system components handle answer supervision.

- Analog, DTI, and ISDN incoming trunks: These are covered as long as they are DID incoming trunks. For incoming analog and DTI trunks, answer supervision or pseudo-answer supervision is returned by the Meridian 1 Option 11C Compact to the CO, if necessary. For incoming ISDN trunks, the connect message is returned instead.
- Analog, DTI, and ISDN outgoing trunks: For incoming DID calls, the answer and disconnect supervisor (SUPN) of the outgoing trunk is forced to NO. The EOD or ODT timer simulates the return of answer supervision.
- Meridian 1 Option 11C Compact: For DID calls terminating at the Meridian 1 Option 11C Compact, the system returns answer supervision based on the terminating condition. For DID calls forwarded to Public Switched Networks (PSN) or private networks, the system returns answer supervision based on the condition of the outgoing trunk (whether answered or timed out).
- CO: The Meridian 1 Option 11C Compact provides the pseudo-answer for DID calls because the Meridian 1 Option 11C Compact cannot return answer supervision.

DID calls terminating at the Meridian 1 Option 11C Compact

The requirements for a DID call terminating at the Meridian 1 Option 11C Compact to return answer supervision to the incoming DID trunk are shown in the following table. The ASUP prompt in LD 16 is kept for other types of calls, but the Meridian 1 Option 11C Compact software enforces the correct settings to return answer supervision if a Recorded Announcement (RAN) is used for DID calls, regardless of the value originally specified in the service change.

Returning Answer Supervision for DID calls terminating at the Meridian 1 Option 11C Compact

DID call terminating status	Answer supervision returned with FCC Compliance
Answered by the called DID station	Yes
Answered by an attendant	Yes
Routed to dialing prompt	Yes
Routed to Meridian Mail	Yes
Routed to Recorded Announcement, including invalid number, not in service, and not assigned announcements	Yes
Routed to Recorded Announcement by Automatic Call Distribution (ACD), including invalid number, not in service, and not assigned announcements	Yes
Not answered	No
Busy signal	No
Recorder signal	No

Calls forwarded to Public Switched Network

Because it is uncertain whether or not the far end will return answer supervision, the Meridian 1 Option 11C Compact uses the EOD and ODT timers. If the Meridian 1 Option 11C Compact has not detected the return of answer supervision upon timeout of the outgoing CO trunk, the Meridian 1 Option 11C Compact sends pseudo-answer supervision to the incoming DID trunk. This timer is set in LD 16 on a per-route basis. When a CO trunk is configured, Meridian 1 Option 11C Compact software forces the value of SUPN to NO. Consequently, Meridian 1 Option 11C Compact software does not expect the return of answer supervision, and returns answer supervision in the following cases:

- The Meridian 1 Option 11C Compact receives answer supervision from the outgoing CO trunk before the EOD or ODT timer of the outgoing route expires.
- The Meridian 1 Option 11C Compact does not receive answer supervision from the outgoing trunk and the EOD or ODT timer of the outgoing route expires; pseudo-answer supervision is generated.

Note: There are still some cases in which the SUPN value for CO trunks is assigned to YES if the CO supports a reverse battery mechanism.

With FCC Compliance, a more stringent mechanism is introduced to apply SUPN = NO in LD 14 to all CO trunks, even those configured as polarity sensitive. Service-changeable EOD or ODT timers are always used for incoming DID calls to enforce the return of answer supervision. In this case:

EOD = 128-19,968 milliseconds (ms) (default time is 13,952 ms), and

ODT = 256-16,128 ms (default time is 4,096 ms).

The EOD timer expires at 20 (20,000 ms) for FCC Compliance. For outgoing DID calls, the EOD upper limit is 32,640 ms.

DID calls forwarded to private networks

Answer supervision is not always returned on TIE trunks because some TIE trunks leased from public carriers are connected to COs that do not support answer supervision.

Currently, the Meridian 1 Option 11C Compact provides the SUPN prompt (LD 14) to specify the availability of answer supervision on certain types of trunks, including TIE, CAM, Common Control Switching Arrangement (CCSA), and CAA (CCSA Automatic Number Identification [ANI]). If SUPN is YES, and it is an outgoing trunk, Meridian 1 Option 11C Compact does not return answer supervision to the incoming DID trunk unless answer supervision is received from that outgoing trunk. If the user specifies NO, the Meridian 1 Option 11C Compact returns pseudo-answer supervision upon EOD or ODT timeout. Such implementation causes short billing and overcharge problems.

To solve this problem, a treatment similar to the one implemented on CO trunks is used on the trunks in this category. The Meridian 1 Option 11C Compact enforces SUPN = NO without changing the SUPN value.

For incoming DID calls routed to private networks, SUPN is enforced to NO to ensure the return of answer supervision on the outgoing TIE, CO, FEX, WATS, CAM, CAA, and CCSA trunks. If answer supervision is not returned when the end of dial timeout occurs, the Meridian 1 Option 11C Compact disregards the original value of SUPN set by the user and forces the return of answer supervision.

When the call comes from a DID trunk, the following outgoing trunks are affected: TIE, CO, FEX, WATS, CAM, CAA, and CCSA.

Feature interactions

Feature Group D

Feature Group D trunks are not affected by this feature.

ISDN trunks

Both incoming and outgoing Integrated Services Digital Network (ISDN) trunks are affected by this feature.

- For ISDN incoming DID trunks, the connect message is returned when answer supervision is returned or when the end of dial timer expires.
- For ISDN outgoing trunks, the end of dial timer is added to the protocol to simulate the EOD timer when a connect message is not returned from the far end; the Meridian 1 Option 11C Compact generates a pseudo-answer supervision to send to the incoming trunk.

Intercept and RAN

With this feature, incoming DID calls that are intercepted to a Recorded Announcement (RAN) are provided with answer supervision.

Operating parameters

Allowing Meridian 1 Option 11C Compact equipment to be operated in such a manner as to not provide proper answer supervision signaling is in violation of Part 68 rules.

This equipment returns answer supervision signals to the public switched telephone network (PSTN) when:

- answered by the called station
- answered by the attendant
- routed to a Recorded Announcement that can be administered by the Customer Premises Equipment (CPE) user, and
- routed to a dial prompt.

This equipment returns answer supervision on all DID calls forwarded back to the PSTN. Permissible exceptions are when:

- a call is unanswered
- a busy tone is received, and
- a reorder tone is received.

Feature packaging

This feature requires Federal Communications Commission Compliance for DID Answer Supervision (FC68) package 223.

Feature implementation

Although no implementation changes are necessary, FCC Compliance does affect system parameters.

LD 14

When FCC Compliance is equipped, the Meridian 1 Option 11C Compact forces SUPN to NO. This indicates that the system does not expect the CO to return answer supervision, and provides the pseudo-answer supervision required.

LD 16

When RAN is provided for DID calls, the Meridian 1 Option 11C Compact forces answer supervision regardless of the setting established in LD 16 with the ASUP prompt.

Feature operation

No specific operating procedures are required to use this feature.

Flexible Feature Codes

Flexible Feature Codes (FFCs) are user-defined numbers of up to four digits that can be used in place of existing Special Prefix (SPRE) codes. With DN Expansion (DNXP) package 150, Flexible Feature Codes (FFCs) can be up to seven digits long. The Flexible Feature Code (FFC) feature allows customers to define different dialing codes for different features. There is no limit to the number of FFCs per prompt as long as each one is unique.

This enhancement allows the use of digits 0 through 9, and the asterisk (*) and octothorpe (#) to activate features. The existing Special Prefix (SPRE) dialing feature is still supported, with or without the FFC feature enabled. However, the Special Prefix (SPRE) must be assigned in LD 15 in order for FFCs to operate for those features that also use SPRE codes.

The FFC package allows analog (500/2500 type) telephones to activate these features:

- Automatic Wake Up (AWU)
- Electronic Lock (ELK)
- Override, and
- Remote Call Forward (RCFW).

Customers define one or more codes at their discretion in LD 57 (FFC). For Service Change updates, refer to the *input/output guide*.

The basic FFC operation allows a telephone to access features normally available by dialing SPRE codes. FFCs are not supported, however, on a Meridian 1 proprietary telephone that is attempting a call pickup on a Dial Intercom ringing call.

A telephone can access a feature via FFC only if that telephone can currently access the same feature via SPRE dialing.

Any telephone that does not currently have SPRE access receives intercept treatment when dialing FFCs. Telephone operation remains the same (only the codes are different) so that the FFC code is dialed instead of the SPRE code. Therefore, each feature enabled must have an FFC individually defined.

When FFCT is YES in LD 57, the Meridian 1 Option 11C Compact returns a confirmation tone to the user after completing some feature operations.

The confirmation tone is the same as the special dial tone.

FFC allows analog (500/2500 type) telephones to Override established calls, based on the telephone's programmed Class of Service. Analog (500/2500 type) telephones can also activate and deactivate Call Forward by dialing a single FFC.

Confirmation Tone for FFC lets analog (500/2500 type) and digital telephones receive a special tone when certain functions are complete. Confirmation Tone is returned following these events:

- Automatic Wake Up (any function)
- Call Forward (deactivate)
- Electronic Lock (any function)
- Ring Again (activate or deactivate)
- Room Status (any function)
- Speed Call Controller (add to Speed Call list), and
- Store Number (erase).

Confirmation Tone for FFC is returned when a predefined string is used as the end-of-dialing indicator for the following activities:

- Call Forward (activate)
- Permanent Hold (any function)
- Speed Call (store)

- Store Number (store), and
- Flexible Feature Code (any verification).

Confirmation Tone is provided for Speed Call store after the End-of-Dial string, such as the octothorpe (#), is entered.

Operating parameters

The SPRE feature must exist in order for FFC to operate.

The FFCs selected must be unique numbers up to seven digits long. They cannot conflict with any Directory Number (DN) already in the dialing plan.

LD 57 can allow no more than 100 FFCs to be modified in a single pass through Service Change.

Customers using the octothorpe (#) as part of their dialing plan can use a predefined string of digits for end-of-dialing indicators.

Changes to the Station Control Passwords (SCPWs) do not take affect until after a data dump and SYSLOAD. Configuring the system or enabling the feature changes SCPL = 0 in LD 15 to any length. This change takes effect immediately. Any other change to SCPL in LD 15 requires a data dump and SYSLOAD before taking effect. When the Station Control Password Length (SCPL) is changed, all associated passwords change accordingly at the next data dump and SYSLOAD. Changing SCPL from three to five automatically inserts leading zeros before all existing three-character passwords.

Conversely, changing SCPL from five to three automatically truncates the leading characters of all existing five-character passwords.

Feature interactions

Attendant and Network-Wide Remote Call Forward

If the Outpulsing of Asterisk and Octothorpe (OPAO) package is equipped, the octothorpe (#) is treated as a dialed digit and does not signal the end of dialing. From one to three end-of-entry characters are defined in LD 15.

Attendant Blocking of Directory Number

If a Flexible Feature Code is dialed after pressing the SACP key to initiate an Attendant Blocking of DN attempt, overflow tone will be provided and the attempt canceled.

Automatic Wake Up

Telephones can activate Automatic Wake Up (AWU) features for their own station with Common Controlled Switching Arrangement Class of Service.

Call Forward All Calls

When FFC is configured for a customer, #1 automatically becomes the FFC DN for both Call Forward Activate (CFWA) and Call Forward Deactivate (CFWD). When the same DN is used for both CFWA and CFWD, FFC toggles the Call Forward activated/deactivated state of the telephone. When Call Forward is activated for a telephone, entering #1 automatically deactivates Call Forward, no matter what follows #1. When Call Forward is deactivated for a telephone, the result of entering #1 depends on what follows:

- If the telephone goes on hook immediately, Call Forward is activated for the telephone to its previous call forward number.
- If a valid DN is entered after #1, call forward is activated for the telephone to that valid DN.
- If an invalid DN is entered after #1, call forward remains deactivated for the telephone.

Controlled Class of Service (CCOS)

If Electronic Lock (ELK) is activated, the CCRS Class of Service is used whether CCOS is active or not. ELK takes precedence over CCOS. If ELK is deactivated, the set is treated as per existing operation.

When FFC ELKA and a password entered, this set will use the CCRS Class of Service configured in LD 15. The CCRS Class of Service will always be used whether or not CCOS is currently controlling the set's Class of Service. When FFC ELKD and a password is entered, the set will use the appropriate Class of Service associated with this set. If CCOS is enabled for the set, the associated customer Class of Service is used (i.e., CCRS, ECC1, or ECC2). If CCOS is not enabled for this set, the set's own Class of Service is used.

When FFC ELK is deactivated, the set reverts back to the Class of Service as it should be without FFC ELK, instead of always reverting back to the set's Class of Service (i.e., if CCOS is enabled, it will use the customer's Class of Service; if CCOS is not enabled, it will use the set's Class of Service).

ISDN QSIG Call Completion

Analog (500/2500 type) set can use Flexible Feature Codes (FFCs) to activate Call Completion to Busy Subscriber requests.

Special Prefix (SPRE)

Users are still able to use SPRE dialing (if the feature is enabled) with or without FFC defined.

Feature packaging

Flexible Feature Codes (FFC) package 139 requires Controlled Class of Service (CCOS) package 81 only if Electronic Lock (ELK) is desired.

In addition, the SPRE dialing feature must be enabled for FFC functions.

2500 Telephone Features (SS25) package 18, and 500 Set Dial Access to Features (SS5) package 73 are required to support the following features:

- Call Forward
- Speed Call Controller
- Speed Call User
- Permanent Hold
- Call Park, and
- System Speed Call.

Feature Implementation

LD 15 – Set parameters for Flexible Feature Code.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB CCS	Customer Data Block. Gate opener.
CUST	0	Customer number.
- CCRS	aaa	Controlled Class of Service (CCOS) (assigned when Electronic Lock (ELK) is activated), where: aaa = UNR (Unrestricted), TLD (Toll Denied), CTD (Conditionally Toll Denied), CUN (Conditionally Unrestricted), SRE (Semi-restricted), FRE (Fully Restricted), FR1 (Fully Restricted Level 1), FR2 (Fully Restricted Level 2).
TYPE	FFC	Gate opener.
- SCPL	x	Station Control Password Length (SCPL), 0-8. Entering 0 disables ELK and Remote Call Forward (RCFW) features at next data dump and SYSLOAD.
- FFCS	(NO), YES	(Do not) change FFC end-of-dialing indicator.
- - STRL	x	String length 1-3 (prompted only if FFCS = YES).
- - STRG	aaa	Character string to be used (up to string length; prompted only if FFCS = YES).

LD 10 – Set Station Control Password Length for Analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
SCPW	xx...xx X	Station Control Password (must be same length as SCPL in LD 15; enter X to delete password).
CLS	CCSA	Enable CCOS for Electronic Lock (ELK) and Remote Call Forward (RCFW).

LD 11 – Set Station Control Password Length for Meridian 1 proprietary telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCPW	xx...xx X	Station Control Password. Must be the same length as SCPL in LD 15. Enter X to delete the password.
CLS	CCSA	Delete the password only if SCPL = 0; otherwise receive an error code for no password to fit the SCPL. Enable CCOS for ELK and Remote Call Forward (RCFW).

LD 57 — Define numbers for Flexible Feature Code.

Prompt	Response	Description
REQ	NEW, CHG, OUT	Build new FFC data block, change FFC data block, remove FFC code.
TYPE	FFC	Flexible Feature Codes.
CUST	0	Customer number.
FFCT	(NO), YES	FFC Confirmation Tone.
CEPT	(NO), YES	Conférence Européen des Postes Tel defaults are (not) allowed, to be defined (prompted only if REQ = NEW).
REP*	n <CR>	Single-character replacement for * and # in CEPT defaults. Create defaults only.
ALL	(NO), YES	(Do not) remove all FFCs (prompted only if REQ = OUT).
CODE	aaaa ALL <CR>	FFC type. All prompts. No prompts.
- ASRC	xxxx	Automatic Set Relocation code.
- ATDA	xxxx	Autodial Activate code.
- ATDD	xxxx	Autodial Deactivate code.
- AUTH	xxxx	Authorization Code.
- AWUA	xxxx	Automatic Wake Up Activate code.
- AWUD	xxxx	Automatic Wake Up Deactivate code.
- AWUV	xxxx	Automatic Wake Up Verify code.
- CDRC	xxxx	Call Detail Recording Charge Account code.
- CFHO	xxxx	Call Forward/Hunt Override code.
- CFWA	xxxx	Call Forward All Calls Activate code.
- CFWD	xxxx	Call Forward All Calls Deactivate code.

- CFVV	xxxx	Call Forward All Calls Verify code.
- COND	xxxx	Conference Diagnostics code.
- CPAC	xxxx	Park Access Call code.
- CPRK	xxxx	Park Call code.
- CSHF	xxxx	Centrex Switchhook Flash code.
- C6DS	xxxx	Six-Party Conference code.
- CWGA	xxxx	Call Waiting Activate code.
- CWGD	xxxx	Call Waiting Deactivate code.
- DEAF	xxxx	Deactivate Ring Again and FWD codes.
- DPVS	xxxx	Data Port Verification code.
- ELKA	xxxx	Electronic Lock Activate code.
- ELKD	xxxx	Electronic Lock Deactivate code.
- GRPF	xxxx	Group Call code.
- GRCL	xxxx	Group Call List number.
- HOLD	xxxx	Permanent Hold code.
- ICFA	xxxx	Internal Call Forward Activate code.
- ICFD	xxxx	Internal Call Forward Deactivate code.
- ICFV	xxxx	Internal Call Forward Verify code.
- IMS	xxxx	Integrated Message System Access code.
- LILO	xxxx	Log-in, Log-out code for analog (500/2500 type) ACD telephones.
- MNTC	xxxx	Maintenance Access code.
- MSBA	xxxx	Make Set Busy Activate code.
- MSBD	xxxx	Make Set Busy Deactivate code.
- MTRC	xxxx	Malicious Call Trace code.

- MWRA	xxxx	Multiple Wake Up Repeat Activate code.
- MWUA	xxxx	Multiple Wake Up Activate code.
- MWUD	xxxx	Multiple Wake Up Deactivate code.
- NRDY	xxxx	Not Ready Activate or Deactivate code for analog (500/2500 type) ACD telephones.
- OVRD	xxxx	Override/Priority Override code.
- PUDN	xxxx	Pick Up Directory Number code.
- PUGR	xxxx	Pick Up Group code.
- PURN	xxxx	Pick Up Ringing Number code.
- RCFA	xxxx	Remote Call Forward Activate code.
- RCFD	xxxx	Remote Call Forward Deactivate code.
- RCFV	xxxx	Remote Call Forward Verify code.
- RDLN	xxxx	Redial Last Number code.
- RDNE	xxxx	Redial Number Erase code.
- RDSN	xxxx	Redial Saved Number code.
- RDST	xxxx	Redial Store code.
- RGAA	xxxx	Ring Again Activate code.
- RGAD	xxxx	Ring Again Deactivate code.
- RGAV	xxxx	Ring Again Verify code.
- RMST	xxxx	Room Status code.
- SADS	xxxx	Scheduled Access Restriction Disable code.
- SAEN	xxxx	Scheduled Access Restriction Enable code.
- SALK	xxxx	Scheduled Access Restriction Lock code.
- SAUN	xxxx	Scheduled Access Restriction Unlock code.
- SCPC	xxxx	Station Control Password Change code.

- SPCC	xxxx	Speed Call Controller code.
- SPCU	xxxx	Speed Call User code.
- SSPU	xxxx	System Speed Call User code.
- TFAS	xxxx	Trunk Answer from Any Station code.
- TRMD	xxxx	Terminal Diagnostics code.
- TRVS	xxxx	Trunk Verification code.
- USCR	xxxx	User Selectable Call Redirection.
- USTA	xxxx	User Status code.

Feature operation

For some features, the user can dial a different FFC to activate or deactivate a feature or to verify some feature operations. The tone for each event (activate, deactivate, verify) is the same as the default Confirmation Tone (special dial tone).

The Electronic Lock and Remote Call Forward FFCs are described here because Electronic Lock is packaged with Flexible Feature Codes and affects Remote Call Forward.

For information about using FFCs for other features, see the individual feature descriptions.

Electronic Lock

Electronic Lock (ELK), packaged with FFC, provides an SCPW for changing the status from the telephone. The SCPW also protects against changes to the Remote Call Forward (RCFW) feature. Entering a password length of 0 in LD 15 (SCPL) disables password control for both ELK and RCFW. Operating ELK requires enabling CCOS package 81.

To change the Class of Service from a telephone:

- 1** Dial the Electronic Lock Activate (ELKA) code.
- 2** Dial the SCPW. The telephone's Class of Service is changed to the CCRS value defined in LD 15.

To return the telephone to the originally defined Class of Service:

- 1 Dial the Electronic Lock Deactivate (ELKD) code.
- 2 Dial the SCPW. The telephone's Class of Service is changed to the values defined in LD 10 and LD 11.

Because the Class of Service defined for CCRS in LD 15 is usually lower than the Class of Service defined in LD 10 or LD 11, the Class of Service for a telephone is lowered by dialing the Electronic Lock Activate (ELKA) FFC and the password associated with that telephone. The user can activate from a remote telephone by dialing the ELKA FFC, the SCPW and the Directory Number to be changed. The same operation can deactivate the feature, using the Electronic Lock Deactivate (ELKD) code programmed in LD 57.

ELK operation has the following requirements:

- CCOS allowed, with CCSA Class of Service in LD 10 and LD 11, and CCRS defined in LD 15
- Set the password length in LD 15, at the SCPL prompt
- Add passwords in LD 10 and LD 11, at the SCPW prompt, and
- FFCT = YES in LD 57.

To change the SCPW for ELK:

- 1 Select a free extension.
- 2 Dial the SCPC code.
- 3 Dial the SCPW for your telephone.
- 4 Dial the new password.
- 5 To confirm, dial the new password again.
- 6 Hang up or press **Rls**.

Flexible Feature Codes, Enhanced

The enhanced Flexible Feature Code (FFC) introduces three new functionalities. These three features are Busy Number Redial (BNR), Customer Call Forward (CCFW), and Outgoing Call Barring (OCB). With all three of these features, there is an option to provide a confirmation tone upon feature activation.

Busy Number Redial

Busy Number Redial enables a user of analog (500/2500 type) sets encountering a busy condition to automatically redial the busy number by performing a switchhook flash and dialing the Busy Number Redial FFC. When the user goes off-hook next without dialing any digit, the busy number is automatically redialed. This feature remains in effect until the desired DN is reached, up to a maximum of 20 minutes.

Customer Call Forward

Customer Call Forward allows users of analog (500/2500 type) sets to forward their telephones to a central answering position by dialing the Customer Call Forward FFC. This feature activates the Call Forward All Calls function without having to specify the forward DN.

Outgoing Call Barring

Outgoing Call Barring allows a set to be blocked from making some or all outgoing calls. Three levels of barring are available which can be selected by dialing the Outgoing Call Barring FFC, the barring level desired, and the Station Control Password (SCPW).

The three levels are each associated with a New Flexible Code Restriction (NFCR) tree in the Customer Data Block. When a DN is dialed, the digits dialed are compared to the associated NFCR tree and busy tone is given if the call is barred. An FFC is also available to verify that the feature is active.

The active level cannot be changed without first deactivating the feature and reactivating it with a new level.

Operating parameters

The enhanced Flexible Feature Codes can be used in other markets.

Busy Number Redial is only available for internal calls and for trunk calls that provide a busy signal when busy tone is given.

Busy Number Redial and Customer Call Forward are only available for analog (500/2500 type) sets.

Outgoing Call Barring does not apply to BRI sets.

The Reply DN for CCFW is limited to 16 digits.

OCB will only process “*” and “#” according to the active NFCR tree if the digits are to be outpulsed on a route with OPR active (including all necessary conditions for OPR). If they are dialed as part of an FFC, the call is allowed; otherwise, an octothorpe will cause the call to be blocked. An asterisk will be ignored, except during digit counting. Thus, FFC’s containing a “*” or an “#” cannot be blocked by this feature.

OCB will not prevent calls from terminating when there are too few dialed digits to traverse the full NFCR tree (e.g., if the active tree is set up to bar 2001, but a DN of 200 exists, calls to 200 will be allowed with no error message).

The maximum number of digits that will be processed by OCB is 32. If the call is not allowed or denied by that point, the call is barred.

OCB can bar feature access codes such as Special Prefix (SPRE) codes and numeric FFCs. It will not bar the digits dialed after a feature access code.

Feature interactions

Busy Number Redial

Autodial

Activation of Busy Number Redial changes the activation of Autodial. The DN that is autodialed becomes the DN that was busy. When the BNR activation timer expires or the busy DN is redialed when it is idle, the autodial capability is deactivated, but the number saved is not cleared. If Autodial is then activated without entering a DN, the number used is the formerly busy DN.

Activation of Autodial when BNR is active deactivates BNR.

Automatic Set Relocation

Busy Number Redial is deactivated when a set is relocated.

Deactivate Feature FFC

The Deactivate Feature (DEAF) FFC deactivates Busy Number Redial.

Hotline

Busy Number Redial cannot be used on Flexible Hotline or Enhanced Hotline sets.

Off-Hook Alarm Security

Busy Number Redial cannot be used on a set with Off-Hook Alarm Security Allowed, since Autodial (ADL) cannot be configured on these sets.

Customer Call Forward (CCFW)

Customer Call Forward is another way of activating Call Forward All Calls (CFWAC), therefore all interactions with CCFW not specified below are the same as with CFWAC.

Call Forward All Calls (CFWAC)

When CCFW is active CFWAC cannot be activated by Flexible Feature Code, but can be activated by SPRE. When CFWAC is active, CCFW cannot be activated.

CCFW can be deactivated by deactivating CFWAC. CFWAC can only be deactivated by the CCFD FFC if the current CFW DN is the same as the current CCFW DN.

Deactivate Feature FFC

The Deactivate Feature FFC deactivates Customer Call Forward.

Make Set Busy

Customer Call Forward takes precedence over Make Set Busy if both are active.

Outgoing Call Barring

Outgoing Call Barring is an additional feature that may block a call. All other call blocking features still apply as usual.

Authorization Codes

Digits dialed after an Authorization Code are checked against the active OCB level.

Call Forward All Calls

When a set with Outgoing Call Barring active activates CFWAC with a new CFW DN, the CFW DN is checked against the current barring level. If the DN is not allowed to be dialed, it can also not be used as a Call Forward DN. This is to prevent a set from forwarding to a barred DN and then dialing its own DN to bypass the restrictions.

Charge Account

Digits dialed after a charge account are checked against the active OCB level.

Digit Display

Meridian 1 proprietary sets with displays do not display the OCB level and the Station Control Password (SCPW) when OCB FFC's are dialed. This protects the security of the SCPW.

Flexible Feature Codes

Flexible Feature Codes containing a "*" or a "#" will always be allowed by OCB. Therefore, FFCs which can be used to make a call should be entirely numeric if barring of them is required.

Some FFCs are equivalent to Special Prefix functions and these will be subject to barring based on the equivalent Special Prefix codes, even if the FFC is entirely numeric.

Last Number Redial

Barred DN's will be stored by Last Number Redial (LNR). DN's redialed using LNR are checked against the active OCB level.

OCB Flexible Feature Codes are not stored as the last number dialed.

Network Alternate Route Selection (NARS)/Basic Alternate Route Selection (BARS)

Calls made through NARS or BARS that result in local termination may not be barred based on the full dialed digits. They will be barred based on the resulting local digits. Calls to a Local Steering Code will use the full dialed digits, as well as the resulting termination. Calls to the Home Location Code (HLOC) will be barred based on the AC1 and HLOC, and then barred separately based on the local DN. Other local terminations include calls to a Numbering Plan Area (NPA) or Home Numbering Plan Area (HNPA) that use Supplemental Digit Restriction and Recognition to recognize a Local Direct Inward Dialing (DID) number, and calls using a Route List Block which terminate using the LTER option.

New Flexible Code Restriction (NFCR)

Outgoing Call Barring uses NFCR trees to define the digit sequences that are not allowed for each level of barring. However, OCB analyses all dialed digits, whereas NFCR only analyses digits outputted on trunks. This means that the same tree will not normally be usable for both features, unless only Coordinated Dialing Plan trunk calls are to be blocked for both features and no digit manipulation is done.

Remote Call Forward

Activation of CFW to a barred DN by Remote Call Forward will be permitted, since the user has had to dial the Station Control Password, which could also have been used to deactivate OCB.

Ring Again

Ring Again cannot be activated after a call is barred by Outgoing Call Barring. Sets with display will not offer Ring Again.

Saved Number Redial

DN's redialed using Saved Number Redial (SNR) are checked against the active OCB level.

M2317 sets will offer a “Save #” after a call to a barred DN.

Speed Call

Digits dialed using Speed Call are checked against the active OCB level. This includes calls made using the Dial Access to Speed Call feature (i.e., using Pilot DNs).

System Speed Call

Digits dialed using System Speed Call are checked against the active OCB level.

Feature packaging

Flexible Feature Codes, Enhanced is contained in base system software. The following packages are required for feature activation:

- Flexible Feature Codes (FFC) package 139
- Busy Number Redial also requires the Autodial functionality that is contained in Optional Features (OPT) package 1
- Customer Call Forward also requires the Call Forward All Calls functionality contained in Optional Features (OPT) package 1, and Special Service for 2500 Sets (SS25) package 18, and
- Outgoing Call Barring also requires the New Flexible Feature Code Restriction (NFCR) package 49.

Feature implementation

LD 15 – Define the basic setup for all three of the FFC-based features.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Gate opener.
CUST	0-99 0-31	Customer number. Customer number for the Option 11.
FFCS	(NO), YES	(Do not) change Flexible Feature Code end-of-dialing indicator.
- STRL	1-3	String Length of end-of-dial indicator.
- STRG	xxx	String to indicate end-of-dialing. Up to three digits as defined by STRL. Digits 0-9 and “#” are valid entries.
REQ	CHG	Change
TYPE	FTR	Gate opener.
- SPRE	nnnn	Special Function Prefix (required for FFCs to operate).

Busy Number Redial

LD 57 – Configure Flexible Feature Codes for Busy Number Redial.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0-99	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone.
CODE		Change code.
- DEAF	xxxx	Deactivate Feature.
- BNRA	xxxx	Busy Number Redial activation code.
- BNRD	xxxx	Busy Number Redial deactivation code.

LD 15 – Set the Autodial Delay time used by Busy Number Redial.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Gate opener.
CUST	0-99	Customer number.
- ADLD	(0)-20	Number of seconds to delay before autodialing the saved busy number (0 will make the feature unavailable). Odd entries are rounded up to the next even number.

LD 10 – Allow Busy Number Redial for analog (500/2500 type) sets.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u c u	Terminal Number. Terminal Number for the Option 11.
CLS	(BNRD), BNRA	(Deny) allow Busy Number Redial for this telephone.
FTR	ADL xx	Autodial, where: xx = the maximum number of digits that can be stored.

Customer Call Forward**LD 57** – Configure Flexible Feature Codes for Customer Call Forward.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0-99	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone.
CODE		Change code.
- DEAF	xxxx	Deactivate Feature.
- CCFA	xxxx	Customer Call Forward activation code.
- CCFD	xxxx	Customer Call Forward deactivation code.

LD 15 – Add or change the Reply DN for Customer Call Forward.

Prompt	Response	Description
REQ	CHG	Redirection.
TYPE	RDR	Gate opener.
CUST	0-99	Customer number.
- CCFWDN	dd..dd X	Customer Call Forward DN (maximum of 16 digits). X to delete.

LD 10 – Configure the Call Forward feature to allow Customer Call Forward for analog (500/2500 type) telephones.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	I s c u c u	Terminal Number. Terminal Number for the Option 11.
FTR	CFW nn	Call Forward (nn must be the same number of digits as the CCFW DN).

Outgoing Call Barring

LD 57 – Configure the Flexible Feature Codes for Outgoing Call Barring.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0-99	Customer number.
FFCT	(NO), YES	Flexible Feature Confirmation Tone.
CODE		Change code
- OCBA	xxxx	Outgoing Call Barring activation code.
- OCBD	xxxx	Outgoing Call Barring deactivation code.
- OCBV	xxxx	Outgoing Call Barring verification code.

LD 15 – Specify NFCR trees and Station Control Password length.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FCR	Gate opener.
NFCR	(NO), YES	(Disable) enable New Flexible Code Restriction.
- MAXT	1-255	Maximum number of NFCR trees.
- OCB1	0-MAXT	NFCR tree for Outgoing Call Barring level 1. Enter 255 to deactivate.
- OCB2	0-MAXT	NFCR tree for Outgoing Call Barring level 2. Enter 255 to deactivate.
- OCB3	0-MAXT	NFCR tree for Outgoing Call Barring level 3. Enter 255 to deactivate.
TYPE	FFC	Gate opener.
CUST	0-99	Customer number.
- SCPL	0-8	Station Control Password Length.

LD 49 – Create NFCR trees for Outgoing Call Barring.

Prompt	Response	Description
REQ	NEW	New.
TYPE	FCR	Flexible Code Restriction.
CUST	0-99	Customer number.
CRNO	(0)-254	New Flexible Code Restriction tree number.
INIT	ALLOW, DENY	Allow or deny digit strings not in tree.
ALLOW	xxxx	Digit sequence to be allowed unconditionally.
	xxxx y...y	Digit sequence to be conditionally allowed and maximum number of digits that can follow.
UPDT	(YES), NO	Data is correct and NFCR tree can be updated.
DENY	xxxx	Digit sequence to be denied unconditionally.
	xxxx y...y	Digit sequence to be conditionally denied and maximum number of digits that can follow.
UPDT	(YES), NO	Data is correct and NFCR tree can be updated.

LD 10 – Allow Outgoing Call Barring for analog (500/2500 type) sets.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	c u	Terminal Number.
SCPW	xxxx	Station Control Password. Length must match SCPL in LD 15.
CLS	(OCBD), OCBA	(Deny) allow Outgoing Call Barring.

LD 11 – Allow Outgoing Call Barring for Meridian 1 proprietary sets.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
SCPW	xxxx	Station Control Password. Length must match SCPL in LD 15.
CLS	(OCBD), OCBA	(Deny) allow Outgoing Call Barring.

Feature operation

Busy Number Redial

To activate Busy Number Redial, a switchhook flash is done, and the BNRA FFC is dialed. The number to be redialed is stored in the set's storage area for Autodial. Confirmation tone is given if the activation is successful.

When the user goes off-hook and does not dial within the number of seconds configured for the Autodial Delay timer (ADLD) the busy number is automatically redialed. If the DN is idle when redialed, the feature is deactivated, otherwise it remains available for 20 minutes. The feature can be deactivated manually by dialing the BNRD FFC, or the Deactivate Feature FFC. The user again hears confirmation tone. Deactivating the feature when it is not active will still cause confirmation tone to be heard, since the feature may have just timed out when going off-hook to dial the deactivation code.

Customer Call Forward

Customer Call Forward is activated by dialing the CCFA FFC. Confirmation tone is given if activation is successful. When Customer Call Forward is activated, the CFWAC feature is activated with the CFW DN set to the Reply DN.

CCFW is deactivated by dialing the Customer Call Forward Deactivate FFC, or the Deactivate Feature FFC (it will also be deactivated by the activation of certain other features, see the Feature interactions section of this description).

Outgoing Call Barring

Outgoing Call Barring can be activated from a set with OCBA Class of Service. To activate OCB, the subscriber dials the OCBA FFC, the barring level desired, and the Station Control Password. An octothorpe must also be dialed from Meridian 1 proprietary and analog (500/2500 type). If activation is successful confirmation tone is given. If the feature is not activated overflow tone is given.

The feature is deactivated by dialing the OCBF FFC, then the active level, and the Station Control Password. An octothorpe must also be dialed from Meridian 1 proprietary and analog (500/2500 type). The subscriber may dial the OCBV FFC to verify that OCB is active. Confirmation tone is heard if OCB is active, otherwise overflow tone is heard.

Flexible Numbering Plan

The Flexible Numbering Plan (FNP) feature allows any station in the network to be represented by a flexible number of digits up to a maximum of 10 digits. FNP allows flexibility for the length of the location codes from node to node. Also, the total number of digits to dial a station can be different for different stations. It allows a network to function with location codes and DNs of varying lengths. It can be used under the Coordinated Dialing Plan, universal numbering plan or the group dialing plan to provide varied network configurations.

For detailed information about FNP, see *Flexible Numbering Plan description, operation, and administration* (553-2751-105).

Flexible Orbiting Prevention Timer

The Orbit Prevention feature prevents an infinite loop from being created in a network-wide Call Forward configuration resulting from set A being call forwarded (all calls) to set B at another node, which in turn has been call forwarded back to set A. A check is provided via the Flexible Orbiting Prevention Timer (FOPT) that prohibits any set from call forwarding more than one call off-node for a period of 14 seconds.

This enhancement to the Orbit Prevention feature allows the Flexible Orbiting Prevention Timer (FOPT), previously fixed at 14 seconds, to be service changeable from 0 to 30 seconds (even numbers only). If a value of 0 is defined, then Orbit Prevention is disabled and call forwarding is not inhibited in any way.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

Flexible Orbiting Prevention Timer is included in base system software.

Feature implementation

LD 15 – Respond to the new FOPT prompt by entering an even value between 0-30 seconds, to define the Orbit Prevention Timer.

Prompt	Response	Description
... FOPT	0-(14)-30	Flexible Orbiting Prevention Timer. The number of seconds in two-second intervals that CFW should be suspended on a set that has just forwarded a call off node. If an odd number is entered, the number is rounded up to the next even number, and the message “FOPT ROUNDED TO xx” is printed.

Feature operation

No specific operating procedures are required to use this feature.

Flexible Voice/Data Terminal Number

The Flexible Voice/Data Terminal Number feature allows both bearer (B) channels on the M2000 series Meridian 1 proprietary sets to be available for either voice or data calls on a dynamic (per-call) or static basis. This feature has been developed exclusively for VISIT equipment functionality. Prior to this development, one B-channel on a set was assigned for voice traffic and the other for data traffic. Existing Meridian 1 proprietary sets cannot use the capabilities of this feature.

With the dynamic capabilities of this feature, a user has access to two simultaneous voice or two simultaneous data connections on the Time Compression Multiplexing (TCM) loop. This capability is practical for users with various desktop multimedia applications, such as VISIT video, that require various combinations of voice and data connections on a per-call basis.

Dynamic voice/data Terminal Numbers (TNs) have two Directory Numbers (DNs) to place and receive calls. The primary voice DN is assigned to key 00 on the set. Another key is assigned the data DN. This key is designated as the data mode key. All data calls are placed and received via this key. Any other secondary DN keys assigned to a dynamic voice/data TN can place and receive voice calls only.

With the static capabilities of this feature, each B-channel on the set is configured as either voice or data. This provides the opportunity for two voice or two data B-channels on the same TCM loop. This configuration doubles the density of the digital line card (XDLC). Since the TN has either a voice or data Class of Service, calls placed from any DN key on the set are either voice or data.

Operating parameters

There are no restrictions against placing data calls on hold.

When a Terminal Number (TN) is in the voice mode, the short hunting feature is terminated when a Data Mode (DTM) key is encountered.

Data calls to a dynamic voice/data TN are not redirected. All TN redirection features such as Call Forward All Calls and Hunting are applicable to voice calls only. If a data call is not presented to the DTM key the call is given reorder tone.

A Data Mode (DTM) key can be assigned to M2000 series Meridian 1 proprietary sets with the exception of the M2006 set.

Data Directory Numbers (DNs) for dynamic voice/data TNs cannot have Multiple Appearance DN (MADNs).

A dynamic voice/data TN can only have one data DN.

No audible progress tones, such as dial tone or ringback, are provided for data calls to or from dynamic TNs. Only Time Compression Multiplexing (TCM) progress messages are sent for data calls. Audible progress tones are provided for voice calls.

If set relocation takes place, upper and lower TNs of a Time Compression Multiplexing (TCM) loop are relocated together. This occurs even if upper and lower TNs were assigned as dynamic or static. A relocated lower TN (0-15) must be in voice mode. Following relocation, both TNs maintain their prior voice or data settings.

When a service change is performed on a dynamic TN in data mode, it is automatically changed to voice mode.

To prevent improper setup, the new Class of Service Flexible Terminal Number Allowed (FLXA) must be specified to assign Data Class of Service to a lower TN or Voice Class of Service to an upper TN.

Feature interactions

Call Forward All Calls

Call Forward All Calls - Internal

Voice calls directed to a dynamic voice/data Terminal Number are forwarded, if either of these features are enabled. Data calls, to a dynamic voice/data TN, are not forwarded.

Call Redirection

If a call is not presented to the Data Mode (DTMK) key, the call is given reorder tone.

Call Waiting

Camp-On

These features are not supported on data calls to a dynamic voice/ data TN.

Call Waiting and Camp On are supported for voice calls to dynamic voice/ data TN. However, no tone is inserted during a Camp On attempt if the Terminal Number is in a busy data mode.

Message Waiting Forward Busy

Call Forward Busy

Voice calls directed to a call processing busy dynamic voice/data TN are redirected via Message Waiting Forward Busy or Call Forward Busy provided these features are configured for the TN. Data calls to dynamic voice/data TNs are not redirected.

Voice Call

If a dynamic TN has a single appearance DN key that terminates on a Voice Call (VCC) key, the called party hears a single beep if occupied on another DN. However, if the called party is a dynamic TN in data mode, the DN key lamp flashes. A beep is not provided.

Feature packaging

The Flexible Voice/Data Terminal Number feature is contained in M2000 Digital Sets (DSET) package 88.

Feature implementation

LD 11 – Assign Static Voice Terminal Number.

Prompt	Response	Description
REQ:	NEW, CHG	New, or Change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	FLXA VCE	Flexible voice/data allowed. FLXA is only required if voice TN unit is less than 15. (FLXD) = Flexible voice/data denied. This Class of Service can only be assigned to 2006, 2008, 2016, 2216 or 2616 sets. When configured to CLS = FLXA, Voice Class of Service (VCE) is assigned the upper TN unit (16 - 31).

LD 11 – Assign Static Data Terminal Number.

Prompt	Response	Description
REQ:	NEW, CHG	New, or Change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	FLXA DTA	Flexible voice/data allowed. FLXA is only required if data TN unit is greater than 15. (FLXD) = Flexible voice/data denied. This Class of Service can only be assigned to 2006, 2008, 2016, 2216 or 2616 sets. When configured to CLS = FLXA, Data Class of Service (DTA) can be assigned to the lower TN unit (0 -15).

LD 11 – Assign Dynamic Terminal Number.

Note: Terminal Numbers with Voice Class of Service and Flexible Voice/Data Allowed can become dynamic voice/data Terminal Number by assigning a secondary SCR/SCN key at the DTMK prompt. The DN specified with this key becomes the data DN.

Prompt	Response	Description
REQ:	NEW, CHG	New, or Change.
TYPE:	aaaa	Telephone type, where: aaaa = 2006, 2008, 2216, or 2616.
TN	c u	Terminal Number.
CLS	FLXA VCE	Flexible voice/data allowed. (FLXD) = Flexible voice/data denied. This Class of Service can only be assigned to 2006, 2008, 2016, 2216 or 2616 sets. When configured to CLS = FLXA Voice Class of Service (VCE) can be assigned to the upper TN unit (16 - 31) and Data Class of Service (DTA) can be assigned to the lower TN unit (0 -15). A Single Call Ringing (SCR) key can be designated a Data Mode (DTMK) key.
DTMK	xx	Key assignment for Data Mode Key. This key must be a single appearance SCR/SCN key and cannot be assigned key 00.
- KEY	00 aaa xxxx	Prime Directory Number Key, where aaa = SCR, SCN, MCR or MCN and xxxx = Voice Directory number
- KEY	xx SCR yyyy xx SCN yyyy	Single Call Ringing Single Call Non Ringing Data Mode Key, where xx = key number and yyyy = Data Directory Number.

When call processing switches between voice and data mode on the dynamic Terminal Number, some Class of Service option data is automatically modified. In data mode, the dynamic TN has options Warning Tone Denied (WTD) and Maintenance Phone Denied (MTD). When switched back to voice mode, the original settings for these options is automatically restored, and the Class of Service is not printed.

Feature operation

There are no specific operating procedures for this feature.

Meridian 1

Option 11C Compact

Features and Services Book 1 (A-F)

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Features and services BK2

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